Powercut 875

Plasma Arc Cutting Package

Instruction Manual

This manual provides installation and operation instructions for the following PowerCut 875 cutting packages starting with Serial No. (PB-J120118142).

P/N 0558002787 - 208/230 V, 25' Package
P/N 0558002788 - 208/230 V, 50' Package
P/N 0558002789 - 460 V, 25' Package
P/N 0558002790 - 460 V, 50' Package
P/N 0558002927 - 575 V, 25' Package

F15-653-J **01 / 2008**

BE SURE THIS INFORMATION REACHES THE OPERATOR.
YOU CAN GET EXTRA COPIES THROUGH YOUR SUPPLIER.

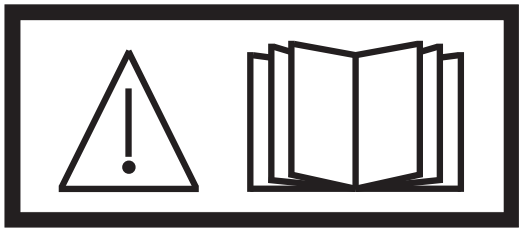
CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding and cutting equipment, we urge you to read our booklet, "Precautions and Safe Practices for Arc Welding, Cutting, and Gouging," Form 52-529. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.

USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.



READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!

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1.0 Safety Precautions

WARNING: These Safety Precautions are for your protection. They summarize precautionary information from the references listed in Additional Safety Information section. Before performing any installation or operating procedures, be sure to read and follow the safety precautions listed below as well as all other manuals, material safety data sheets, labels, etc. Failure to observe Safety Precautions can result in injury or death.

PROTECT YOURSELF AND OTHERS -- Some welding, cutting, and gouging processes are noisy and require ear protection. The arc, like the sun, emits ultraviolet (UV) and other radiation and can injure skin and eyes. Hot metal can cause burns. Training in the proper use of the processes and equipment is essential to prevent accidents. Therefore:

1. Always wear safety glasses with side shields in any work area, even if welding helmets, face shields, and goggles are also required.
2. Use a face shield fitted with the correct filter and cover plates to protect your eyes, face, neck, and ears from sparks and rays of the arc when operating or observing operations. Warn bystanders not to watch the arc and not to expose themselves to the rays of the electric-arc or hot metal.
3. Wear flameproof gauntlet type gloves, heavy long-sleeve shirt, cuffless trousers, high-topped shoes, and a welding helmet or cap for hair protection, to protect against arc rays and hot sparks or hot metal. A flameproof apron may also be desirable as protection against radiated heat and sparks.
4. Hot sparks or metal can lodge in rolled up sleeves, trouser cuffs, or pockets. Sleeves and collars should be kept buttoned, and open pockets eliminated from the front of clothing.
5. Protect other personnel from arc rays and hot sparks with a suitable non-flammable partition or curtains.
6. Use goggles over safety glasses when chipping slag or grinding. Chipped slag may be hot and can fly far. Bystanders should also wear goggles over safety glasses.

1.1 Safety - English

FIRES AND EXPLOSIONS -- Heat from flames and arcs can start fires. Hot slag or sparks can also cause fires and explosions. Therefore:

1. Remove all combustible materials well away from the work area or cover the materials with a protective non-flammable covering. Combustible materials include wood, cloth, sawdust, liquid and gas fuels, solvents, paints and coatings, paper, etc.
2. Hot sparks or hot metal can fall through cracks or crevices in floors or wall openings and cause a hidden smoldering fire or fires on the floor below. Make certain that such openings are protected from hot sparks and metal."
3. Do not weld, cut or perform other hot work until the workpiece has been completely cleaned so that there are no substances on the workpiece which might produce flammable or toxic vapors. Do not do hot work on closed containers. They may explode.
4. Have fire extinguishing equipment handy for instant use, such as a garden hose, water pail, sand bucket, or portable fire extinguisher. Be sure you are trained in its use.
5. Do not use equipment beyond its ratings. For example, overloaded welding cable can overheat and create a fire hazard.
6. After completing operations, inspect the work area to make certain there are no hot sparks or hot metal which could cause a later fire. Use fire watchers when necessary.
7. For additional information, refer to NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

ELECTRICAL SHOCK -- Contact with live electrical parts and ground can cause severe injury or death. DO NOT use AC welding current in damp areas, if movement is confined, or if there is danger of falling.

1. Be sure the power source frame (chassis) is connected to the ground system of the input power.

2. Connect the workpiece to a good electrical ground.

3. Connect the work cable to the workpiece. A poor or missing connection can expose you or others to a fatal shock.

4. Use well-maintained equipment. Replace worn or damaged cables.

5. Keep everything dry, including clothing, work area, cables, torch/electrode holder, and power source.

6. Make sure that all parts of your body are insulated from work and from ground.

7. Do not stand directly on metal or the earth while working in tight quarters or a damp area; stand on dry boards or an insulating platform and wear rubber-soled shoes.

8. Put on dry, hole-free gloves before turning on the power.

9. Turn off the power before removing your gloves.

10. Refer to ANSI/ASC Standard Z49.1 (listed on next page) for specific grounding recommendations. Do not mistake the work lead for a ground cable.

ELECTRIC AND MAGNETIC FIELDS — May be dangerous. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and cutting current creates EMF around welding cables and welding machines. Therefore:

1. Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.

2. Exposure to EMF may have other health effects which are unknown.

3. Welders should use the following procedures to minimize exposure to EMF:

   A. Route the electrode and work cables together. Secure them with tape when possible.

   B. Never coil the torch or work cable around your body.

   C. Do not place your body between the torch and work cables. Route cables on the same side of your body.

   D. Connect the work cable to the workpiece as close as possible to the area being welded.

   E. Keep welding power source and cables as far away from your body as possible.

FUMES AND GASES -- Fumes and gases, can cause discomfort or harm, particularly in confined spaces. Do not breathe fumes and gases. Shielding gases can cause asphyxiation. Therefore:

1. Always provide adequate ventilation in the work area by natural or mechanical means. Do not weld, cut, or gouge on materials such as galvanized steel, stainless steel, copper, zinc, lead, beryllium, or cadmium unless positive mechanical ventilation is provided. Do not breathe fumes from these materials.

2. Do not operate near degreasing and spraying operations. The heat or arc rays can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas, and other irritant gases.

3. If you develop momentary eye, nose, or throat irritation while operating, this is an indication that ventilation is not adequate. Stop work and take necessary steps to improve ventilation in the work area. Do not continue to operate if physical discomfort persists.

4. Refer to ANSI/ASC Standard Z49.1 (see listing below) for specific ventilation recommendations.

5. WARNING: This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code §25249.5 et seq.)

CYLINDER HANDLING -- Cylinders, if mishandled, can rupture and violently release gas. Sudden rupture of cylinder, valve, or relief device can injure or kill. Therefore:

1. Use the proper gas for the process and use the proper pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adaptors. Maintain hoses and fittings in good condition. Follow manufacturer's operating instructions for mounting regulator to a compressed gas cylinder.

2. Always secure cylinders in an upright position by chain or strap to suitable hand trucks, undercarriages, benches, walls, post, or racks. Never secure cylinders to work tables or fixtures where they may become part of an electrical circuit.

3. When not in use, keep cylinder valves closed. Have valve protection cap in place if regulator is not connected. Secure and move cylinders by using suitable hand trucks. Avoid rough handling of cylinders.

4. Locate cylinders away from heat, sparks, and flames. Never strike an arc on a cylinder.

5. For additional information, refer to CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", which is available from Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.

EQUIPMENT MAINTENANCE -- Faulty or improperly maintained equipment can cause injury or death. Therefore:

1. Always have qualified personnel perform the installation, troubleshooting, and maintenance work. Do not perform any electrical work unless you are qualified to perform such work.

2. Before performing any maintenance work inside a power source, disconnect the power source from the incoming electrical power.

3. Maintain cables, grounding wire, connections, power cord, and power supply in safe working order. Do not operate any equipment in faulty condition.

4. Do not abuse any equipment or accessories. Keep equipment away from heat sources such as furnaces, wet conditions such as water puddles, oil or grease, corrosive atmospheres and inclement weather.

5. Keep all safety devices and cabinet covers in position and in good repair.

6. Use equipment only for its intended purpose. Do not modify it in any manner.

ADDITIONAL SAFETY INFORMATION -- For more information on safe practices for electric arc welding and cutting equipment, ask your supplier for a copy of "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

The following publications, which are available from the American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, are recommended to you:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"

2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"

3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"

4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"

5. AWS C5.5 - "Recommended Practices for Gas Tungsten Arc Welding“

6. AWS C5.6 - "Recommended Practices for Gas Metal Arc Welding"“

7. AWS SP - "Safe Practices" - Reprint, Welding Handbook.

8. ANSI/AWS F4.1, "Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances."

MEANING OF SYMBOLS - As used throughout this manual: Means Attention! Be Alert! Your safety is involved.

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

Means potential hazards which could result in personal injury or loss of life.

Means hazards which could result in minor personal injury.

1.2 Safety - Spanish

ADVERTENCIA: Estas Precauciones de Seguridad son para su protección. Ellas hacen resumen de información proveniente de las referencias listadas en la sección "Información Adicional Sobre La Seguridad". Antes de hacer cualquier instalación o procedimiento de operación , asegúrese de leer y seguir las precauciones de seguridad listadas a continuación así como también todo manual, hoja de datos de seguridad del material, calcomanias, etc. El no observar las Precauciones de Seguridad puede resultar en daño a la persona o muerte.

PROTEJASE USTED Y A LOS DEMAS-- Algunos procesos de soldadura, corte y ranurado son ruidosos y requiren protección para los oídos. El arco, como el sol , emite rayos ultravioleta (UV) y otras radiaciones que pueden dañar la piel y los ojos. El metal caliente causa quemaduras. EL entrenamiento en el uso propio de los equipos y sus procesos es esencial para prevenir accidentes. Por lo tanto:

1. Utilice gafas de seguridad con protección a los lados siempre que esté en el área de trabajo, aún cuando esté usando careta de soldar, protector para su cara u otro tipo de protección.
2. Use una careta que tenga el filtro correcto y lente para proteger sus ojos, cara, cuello, y oídos de las chispas y rayos del arco cuando se esté operando y observando las operaciones. Alerte a todas las personas cercanas de no mirar el arco y no exponerse a los rayos del arco eléctrico o el metal fundido.
3. Use guantes de cuero a prueba de fuego, camisa pesada de mangas largas, pantalón de ruedo liso, zapato alto al tobillo, y careta de soldar con capucha para el pelo, para proteger el cuerpo de los rayos y chispas calientes provenientes del metal fundido. En ocaciones un delantal a prueba de fuego es necesario para protegerse del calor radiado y las chispas.
4. Chispas y partículas de metal caliente puede alojarse en las mangas enrolladas de la camisa , el ruedo del pantalón o los bolsillos. Mangas y cuellos deberán mantenerse abotonados, bolsillos al frente de la camisa deberán ser cerrados o eliminados.
5. Proteja a otras personas de los rayos del arco y chispas calientes con una cortina adecuada no-flamable como división.
6. Use careta protectora además de sus gafas de seguridad cuando esté removiendo escoria o puliendo. La escoria puede estar caliente y desprenderse con velocidad. Personas cercanas deberán usar gafas de seguridad y careta protectora.

FUEGO Y EXPLOSIONES -- El calor de las flamas y el arco pueden ocacionar fuegos. Escoria caliente y las chispas pueden causar fuegos y explosiones. Por lo tanto:

1. Remueva todo material combustible lejos del área de trabajo o cubra los materiales con una cobija a prueba de fuego. Materiales combustibles incluyen madera, ropa, líquidos y gases flamables, solventes, pinturas, papel, etc.
2. Chispas y partículas de metal pueden introducirse en las grietas y agujeros de pisos y paredes causando fuegos escondidos en otros niveles o espacios. Asegúrese de que toda grieta y agujero esté cubierto para proteger lugares adyacentes contra fuegos.
3. No corte, suelde o haga cualquier otro trabajo relacionado hasta que la pieza de trabajo esté totalmente limpia y libre de substancias que puedan producir gases inflamables o vapores tóxicos. No trabaje dentro o fuera de contenedores o tanques cerrados. Estos pueden explotar si contienen vapores inflamables.
4. Tenga siempre a la mano equipo extintor de fuego para uso instantáneo, como por ejemplo una manguera con agua, cubeta con agua, cubeta con arena, o extintor portátil. Asegúrese que usted esta entrenado para su uso.
5. No use el equipo fuera de su rango de operación. Por ejemplo, el calor causado por cable sobrecarga en los cables de soldar pueden ocasionar un fuego.
6. Después de termirar la operación del equipo, inspeccione el área de trabajo para cerciorarse de que las chispas o metal caliente ocasionen un fuego más tarde. Tenga personal asignado para vigilar si es necesario.
7. Para información adicional , haga referencia a la publicación NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible a través de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

CHOQUE ELECTRICO -- El contacto con las partes eléctricas energizadas y tierra puede causar daño severo o muerte. NO use soldadura de corriente alterna (AC) en áreas húmedas, de movimiento confinado en lugares estrechos o si hay posibilidad de caer al suelo.

1. Asegúrese de que el chasis de la fuente de poder esté conectado a tierra através del sistema de electricidad primario.
2. Conecte la pieza de trabajo a un buen sistema de tierra física.
3. Conecte el cable de retorno a la pieza de trabajo. Cables y conductores expuestos o con malas conexiones pueden exponer al operador u otras personas a un choque eléctrico fatal.
4. Use el equipo solamente si está en buenas condiciones. Reemplaze cables rotos, dañados o con conductores expuestos.
5. Mantenga todo seco, incluyendo su ropa, el área de trabajo, los cables, antorchas, pinza del electrodo, y la fuente de poder.
6. Asegúrese que todas las partes de su cuerpo están insuladas de ambos, la pieza de trabajo y tierra.
7. No se pare directamente sobre metal o tierra mientras trabaja en lugares estrechos o áreas húmedas; trabaje sobre un pedazo de madera seco o una plataforma insulada y use zapatos con suela de goma.
8. Use guantes secos y sin agujeros antes de energizar el equipo.
9. Apage el equipo antes de quitarse sus guantes.
10. Use como referencia la publicación ANSI/ASC Standard Z49.1 (listado en la próxima página) para recomendaciones específicas de como conectar el equipo a tierra. No confunda el cable de soldar a la pieza de trabajo con el cable a tierra.

CAMPOS ELECTRICOS Y MAGNETICOS - Son peligrosos. La corriente eléctrica fluye através de cualquier conductor causando a nivel local Campos Eléctricos y Magnéticos (EMF). Las corrientes en el área de corte y soldadura, crean EMF alrrededor de los cables de soldar y las maquinas. Por lo tanto:

1. Soldadores u Operadores que use marca-pasos para el corazón deberán consultar a su médico antes de soldar. El Campo Electromagnético (EMF) puede interferir con algunos marca-pasos.

2. Exponerse a campos electromagnéticos (EMF) puede causar otros efectos de salud aún desconocidos.

3. Los soldadores deberán usar los siguientes procedimientos para minimizar exponerse al EMF:

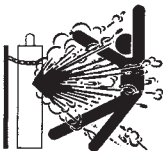
   A. Mantenga el electrodo y el cable a la pieza de trabajo juntos, hasta llegar a la pieza que usted quiere soldar. Asegúrelos uno junto al otro con cinta adhesiva cuando sea posible.
   B. Nunca envuelva los cables de soldar alrededor de su cuerpo.
   C. Nunca ubique su cuerpo entre la antorcha y el cable, a la pieza de trabajo. Mantega los cables a un sólo lado de su cuerpo.
   D. Conecte el cable de trabajo a la pieza de trabajo lo más cercano posible al área de la soldadura.
   E. Mantenga la fuente de poder y los cables de soldar lo más lejos posible de su cuerpo.

HUMO Y GASES -- El humo y los gases, pueden causar malestar o daño, particularmente en espacios sin ventilación. No inhale el humo o gases. El gas de protección puede causar falta de oxígeno.

Por lo tanto:

1. Siempre provea ventilación adecuada en el área de trabajo por medio natural o mecánico. No solde, corte, o ranure materiales con hierro galvanizado, acero inoxidable, cobre, zinc, plomo, berílio, o cadmio a menos que provea ventilación mecánica positiva . No respire los gases producidos por estos materiales.
2. No opere cerca de lugares donde se aplique substancias químicas en aerosol. El calor de los rayos del arco pueden reaccionar con los vapores de hidrocarburo clorinado para formar un fosfógeno, o gas tóxico, y otros irritant es.
3. Si momentáneamente desarrolla inrritación de ojos, nariz o garganta mientras est á operando, es indicación de que la ventilación no es apropiada. Pare de trabajar y tome las medidas necesarias para mejorar la ventilación en el área de trabajo. No continúe operando si el malestar físico persiste.
4. Haga referencia a la publicación ANSI/ASC Standard Z49.1 (Vea la lista a continuación) para recomendaciones específicas en la ventilación.

5. ADVERTENCIA-- Este producto cuando se utiliza para soldaduras o cortes, produce humos o gases, los cuales contienen químicos conocidos por el Estado de California de causar defectos en el nacimiento, o en algunos casos, Cancer. (California Health & Safety Code §25249.5 et seq.)



MANEJO DE CILINDROS-- Los cilindros, si no son manejados correctamente, pueden romperse y liberar violentamente gases. Rotura repentina del cilindro, válvula, o válvula de escape puede causar daño o muerte. Por lo tanto:

1. Utilize el gas apropiado para el proceso y utilize un regulador diseñado para operar y reducir la presión del cilindro de gas . No utilice adaptadores. Mantenga las mangueras y las conexiones en buenas condiciones. Observe las instrucciones de operación del manufacturero para montar el regulador en el cilindro de gas comprimido.

2. Asegure siempre los cilindros en posición vertical y amárrelos con una correa o cadena adecuada para asegurar el cilindro al carro, transportes, tablilleros, paredes, postes, o armazón. Nunca asegure los cilindros a la mesa de trabajo o las piezas que son parte del circuito de soldadura . Este puede ser parte del circuito elélectrico.

3. Cuando el cilindro no está en uso, mantenga la válvula del cilindro cerrada. Ponga el capote de protección sobre la válvula si el regulador no está conectado. Asegure y mueva los cilindros utilizando un carro o transporte adecuado. Evite el manejo brusco de los

MANTENIMIENTO DEL EQUIPO -- Equipo defectuoso o mal mantenido puede causar daño o muerte. Por lo tanto:

1. Siempre tenga personal cualificado para efectuar l a instalación, diagnóstico, y mantenimiento del equipo. No ejecute ningún trabajo eléctrico a menos que usted esté cualificado para hacer el trabajo.
2. Antes de dar mantenimiento en el interior de la fuente de poder, desconecte la fuente de poder del suministro de electricidad primaria.
3. Mantenga los cables, cable a tierra, conexciones, cable primario, y cualquier otra fuente de poder en buen estado operacional. No opere ningún equipo en malas condiciones.
4. No abuse del equipo y sus accesorios. Mantenga el equipo lejos de cosas que generen calor como hornos, también lugares húmedos como charcos de agua , aceite o grasa, atmósferas corrosivas y las inclemencias del tiempo.
5. Mantenga todos los artículos de seguridad y coverturas del equipo en su posición y en buenas condiciones.
6. Use el equipo sólo para el propósito que fue diseñado. No modifique el equipo en ninguna manera.

INFORMACION ADICIONAL DE SEGURIDAD -- Para más información sobre las prácticas de seguridad de los equipos de arco eléctrico para soldar y cortar, pregunte a su suplidor por una copia de "Precautions and Safe Practices for Arc Welding, Cutting and Gouging-Form 52-529.

Las siguientes publicaciones, disponibles através de la American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, son recomendadas para usted:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"

2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"

3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"

4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"

SIGNIFICADO DE LOS SIMBOLOS -- Según usted avanza en la lectura de este folleto: Los Símbolos Significan ¡Atención! ¡Esté Alerta! Se trata de su seguridad.

Significa riesgo inmediato que, de no ser evadido, puede resultar inmediatamente en serio daño personal o la muerte.

Significa el riesgo de un peligro potencial que puede resultar en serio daño personal o la muerte.

Significa el posible riesgo que puede resultar en menores daños a la persona.

1.3 Safety - French

AVERTISSEMENT : Ces règles de sécurité ont pour but d'assurer votre protection. Ils récapitulent les informations de précaution provenant des références dans la section des Informations de sécurité supplémentaires. Avant de procéder à l'installation ou d'utiliser l'unité, assurez-vous de lire et de suivre les précautions de sécurité ci-dessous, dans les manuels, les fiches d'information sur la sécurité du matériel et sur les étiquettes, etc. Tout défaut d'observer ces précautions de sécurité peut entraîner des blessures graves ou mortelles.

PROTÉGEZ-VOUS -- Les processus de soudage, de coupage et de gougeage produisent un niveau de bruit élevé et exige l'emploi d'une protection auditive. L'arc, tout comme le soleil, émet des rayons ultraviolets en plus d'autre rayons qui peuvent causer des blessures à la peau et les yeux. Le métal incandescent peut causer des brûlures. Une formation reliée à l'usage des processus et de l'équipement est essentielle pour prévenir les accidents. Par conséquent:

1. Portez des lunettes protectrices munies d'écrans latéraux lorsque vous êtes dans l'aire de travail, même si vous devez porter un casque de soudeur, un écran facial ou des lunettes étanches.
2. Portez un écran facial muni de verres filtrants et de plaques protectrices appropriées afin de protéger vos yeux, votre visage, votre cou et vos oreilles des étincelles et des rayons de l'arc lors d'une opération ou lorsque vous observez une opération. Avertissez les personnes se trouvant à proximité de ne pas regarder l'arc et de ne pas s'exposer aux rayons de l'arc électrique ou le métal incandescent.
3. Portez des gants ignifugiés à crispin, une chemise épaisse à manches longues, des pantalons sans rebord et des chaussures montantes afin de vous protéger des rayons de l'arc, des étincelles et du métal incandescent, en plus d'un casque de soudeur ou casquette pour protéger vos cheveux. Il est également recommandé de porter un tablier ininflammable afin de vous protéger des étincelles et de la chaleur par rayonnement.
4. Les étincelles et les projections de métal incandescent risquent de se loger dans les manches retroussées, les rebords de pantalons ou les poches. Il est recommandé de garder boutonnés le col et les manches et de porter des vêtements sans poches en avant.
5. Protégez toute personne se trouvant à proximité des étincelles et des rayons de l'arc à l'aide d'un rideau ou d'une cloison ininflammable.
6. Portez des lunettes étanches par dessus vos lunettes de sécurité lors des opérations d'écaillage ou de meulage du laitier. Les écailles de laitier incandescent peuvent être projetées à des distances considérables. Les personnes se trouvant à proximité doivent également porter des lunettes étanches par dessus leur lunettes de sécurité.

INCENDIES ET EXPLOSIONS -- La chaleur provenant des flammes ou de l'arc peut provoquer un incendie. Le laitier incandescent ou les étincelles peuvent également provoquer un incendie ou une explosion. Par conséquent :

1. Éloignez suffisamment tous les matériaux combustibles de l'aire de travail et recouvrez les matériaux avec un revêtement protecteur ininflammable. Les matériaux combustibles incluent le bois, les vêtements, la sciure, le gaz et les liquides combustibles, les solvants, les peintures et les revêtements, le papier, etc.
2. Les étincelles et les projections de métal incandescent peuvent tomber dans les fissures dans les planchers ou dans les ouvertures des murs et déclencher un incendie couvant à l'étage inférieur Assurez-vous que ces ouvertures sont bien protégées des étincelles et du métal incandescent.
3. N'exécutez pas de soudure, de coupe ou autre travail à chaud avant d'avoir complètement nettoyé la surface de la pièce à traiter de façon à ce qu'il n'ait aucune substance présente qui pourrait produire des vapeurs inflammables ou toxiques. N'exécutez pas de travail à chaud sur des contenants fermés car ces derniers pourraient exploser.
4. Assurez-vous qu'un équipement d'extinction d'incendie est disponible et prêt à servir, tel qu'un tuyau d'arrosage, un seau d'eau, un seau de sable ou un extincteur portatif. Assurez-vous d'être bien instruit par rapport à l'usage de cet équipement.
5. Assurez-vous de ne pas excéder la capacité de l'équipement. Par exemple, un câble de soudage surchargé peut surchauffer et provoquer un incendie.
6. Une fois les opérations terminées, inspectez l'aire de travail pour assurer qu'aucune étincelle ou projection de métal incandescent ne risque de provoquer un incendie ultérieurement. Employez des guetteurs d'incendie au besoin.
7. Pour obtenir des informations supplémentaires, consultez le NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible au National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

CHOC ÉLECTRIQUE -- Le contact avec des pièces électriques ou les pièces de mise à la terre sous tension peut causer des blessures graves ou mortelles. NE PAS utiliser un courant de soudage c.a. dans un endroit humide, en espace restreint ou si un danger de chute se pose.

1. Assurez-vous que le châssis de la source d'alimentation est branché au système de mise à la terre de l'alimentation d'entrée.
2. Branchez la pièce à traiter à une bonne mise de terre électrique.
3. Branchez le câble de masse à la pièce à traiter et assurez une bonne connexion afin d'éviter le risque de choc électrique mortel.
4. Utilisez toujours un équipement correctement entretenu. Remplacez les câbles usés ou endommagés.
5. Veillez à garder votre environnement sec, incluant les vêtements, l'aire de travail, les câbles, le porte-électrode/torche et la source d'alimentation.
6. Assurez-vous que tout votre corps est bien isolé de la pièce à traiter et des pièces de la mise à la terre.
7. Si vous devez effectuer votre travail dans un espace restreint ou humide, ne tenez vous pas directement sur le métal ou sur la terre; tenez-vous sur des planches sèches ou une plate-forme isolée et portez des chaussures à semelles de caoutchouc.
8. Avant de mettre l'équipement sous tension, isolez vos mains avec des gants secs et sans trous.
9. Mettez l'équipement hors tension avant d'enlever vos gants.
10. Consultez ANSI/ASC Standard Z49.1 (listé à la page suivante) pour des recommandations spécifiques concernant les procédures de mise à la terre. Ne pas confondre le câble de masse avec le câble de mise à la terre.

CHAMPS ÉLECTRIQUES ET MAGNÉTIQUES — comportent un risque de danger. Le courant électrique qui passe dans n'importe quel conducteur produit des champs électriques et magnétiques localisés. Le soudage et le courant de coupage créent des champs électriques et magnétiques autour des câbles de soudage et l'équipement. Par conséquent :

1. Un soudeur ayant un stimulateur cardiaque doit consulter son médecin avant d'entreprendre une opération de soudage. Les champs électriques et magnétiques peuvent causer des ennuis pour certains stimulateurs cardiaques.
2. L'exposition à des champs électriques et magnétiques peut avoir des effets néfastes inconnus pour la santé.
3. Les soudeurs doivent suivre les procédures suivantes pour minimiser l'exposition aux champs électriques et magnétiques :
   A. Acheminez l'électrode et les câbles de masse ensemble. Fixez-les à l'aide d'une bande adhésive lorsque possible.
   B. Ne jamais enrouler la torche ou le câble de masse autour de votre corps.
   C. Ne jamais vous placer entre la torche et les câbles de masse. Acheminez tous les câbles sur le même côté de votre corps.
   D. Branchez le câble de masse à la pièce à traiter le plus près possible de la section à souder.
   E. Veillez à garder la source d'alimentation pour le soudage et les câbles à une distance appropriée de votre corps.

LES VAPEURS ET LES GAZ -- peuvent causer un malaise ou des dommages corporels, plus particulièrement dans les espaces restreints. Ne respirez pas les vapeurs et les gaz. Le gaz de protection risque de causer l'asphyxie. Par conséquent :

1. Assurez en permanence une ventilation adéquate dans l'aire de travail en maintenant une ventilation naturelle ou à l'aide de moyens mécanique. N'effectuez jamais de travaux de soudage, de coupage ou de gougeage sur des matériaux tels que l'acier galvanisé, l'acier inoxydable, le cuivre, le zinc, le plomb, le berylliym ou le cadmium en l'absence de moyens mécaniques de ventilation efficaces. Ne respirez pas les vapeurs de ces matériaux.
2. N'effectuez jamais de travaux à proximité d'une opération de dégraissage ou de pulvérisation. Lorsque la chaleur
   ou le rayonnement de l'arc entre en contact avec les vapeurs d'hydrocarbure chloré, ceci peut déclencher la formation de phosgène ou d'autres gaz irritants, tous extrêmement toxiques.
3. Une irritation momentanée des yeux, du nez ou de la gorge au cours d'une opération indique que la ventilation n'est pas adéquate. Cessez votre travail afin de prendre les mesures nécessaires pour améliorer la ventilation dans l'aire de travail. Ne poursuivez pas l'opération si le malaise persiste.
4. Consultez ANSI/ASC Standard Z49.1 (à la page suivante) pour des recommandations spécifiques concernant la ventilation.

5. AVERTISSEMENT : Ce produit, lorsqu'il est utilisé dans une opération de soudage ou de coupage, dégage des vapeurs ou des gaz contenant des chimiques considéres par l'état de la Californie comme étant une cause des malformations congénitales et dans certains cas, du cancer. (California Health & Safety Code §25249.5 et seq.)

MANIPULATION DES CYLINDRES -- La manipulation d'un cylindre, sans observer les précautions nécessaires, peut produire des fissures et un échappement dangereux des gaz. Une brisure soudaine du cylindre, de la soupape ou du dispositif de surpression peut causer des blessures graves ou mortelles. Par conséquent :

1. Utilisez toujours le gaz prévu pour une opération et le détendeur approprié conçu pour utilisation sur les cylindres de gaz comprimé. N'utilisez jamais d'adaptateur. Maintenez en bon état les tuyaux et les raccords. Observez les instructions d'opération du fabricant pour assembler le détendeur sur un cylindre de gaz comprimé.
2. Fixez les cylindres dans une position verticale, à l'aide d'une chaîne ou une sangle, sur un chariot manuel, un châssis de roulement, un banc, un mur, une colonne ou un support convenable. Ne fixez jamais un cylindre à un poste de travail ou toute autre dispositif faisant partie d'un circuit électrique.
3. Lorsque les cylindres ne servent pas, gardez les soupapes fermées. Si le détendeur n'est pas branché, assurez-vous que le bouchon de protection de la soupape est bien en place. Fixez et déplacez les cylindres à l'aide d'un chariot manuel approprié. Toujours manipuler les cylindres avec soin.
4. Placez les cylindres à une distance appropriée de toute source de chaleur, des étincelles et des flammes. Ne jamais amorcer l'arc sur un cylindre.
5. Pour de l'information supplémentaire, consultez CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", mis à votre disposition par le Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.

ENTRETIEN DE L'ÉQUIPEMENT -- Un équipement entretenu de façon défectueuse ou inadéquate peut causer des blessures graves ou mortelles. Par conséquent :

1. Efforcez-vous de toujours confier les tâches d'installation, de dépannage et d'entretien à un personnel qualifié. N'effectuez aucune réparation électrique à moins d'être qualifié à cet effet.
2. Avant de procéder à une tâche d'entretien à l'intérieur de la source d'alimentation, débranchez l'alimentation électrique.
3. Maintenez les câbles, les fils de mise à la terre, les branchements, le cordon d'alimentation et la source d'alimentation en bon état. N'utilisez jamais un équipement s'il présente une défectuosité quelconque.
4. N'utilisez pas l'équipement de façon abusive. Gardez l'équipement à l'écart de toute source de chaleur, notamment des fours, de l'humidité, des flaques d'eau, de l'huile ou de la graisse, des atmosphères corrosives et des intempéries.
5. Laissez en place tous les dispositifs de sécurité et tous les panneaux de la console et maintenez-les en bon état.
6. Utilisez l'équipement conformément à son usage prévu et n'effectuez aucune modification.

INFORMATIONS SUPPLÉMENTAIRES RELATIVES À LA SÉCURITÉ -- Pour obtenir de l'information supplémentaire sur les règles de sécurité à observer pour l'équipement de soudage à l'arc électrique et le coupage, demandez un exemplaire du livret "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

Les publications suivantes sont également recommandées et mises à votre disposition par l'American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126 :

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"

SIGNIFICATION DES SYMBOLES

Ce symbole, utilisé partout dans ce manuel, signifie "Attention" ! Soyez vigilant ! Votre sécurité est en jeu.

DANGER

Signifie un danger immédiat. La situation peut entraîner des blessures graves ou mortelles.

AVERTISSEMENT

Signifie un danger potentiel qui peut entraîner des blessures graves ou mortelles.

ATTENTION

Signifie un danger qui peut entraîner des blessures corporelles mineures.

SECTION 2 DESCRIPTION

2.1 GENERAL

The PowerCut is a compact, completely self-contained plasma cutting system. As shipped, the system is fully assembled and ready to cut after being connected to input power and a source of compressed air (90-150 psi). The PowerCut 875 package uses the heavy-duty PT-32 torch to deliver cutting power for severing materials up to 1-1/4 inch thick. Refer to the following paragraphs for descriptions of the Powercut 875 packages available as well as performance specifications.

2.2 SCOPE

The purpose of this manual is to provide the operator with all the information required to install and operate the PowerCut 875 plasma arc cutting package. Technical reference material is also provided to assist in troubleshooting the cutting package.

WARNING **USE ONLY THE ESAB PT-32 PLASMARC TORCH WITH THIS CONSOLE. USE OF TORCHES NOT DESIGNED FOR USE WITH THIS CONSOLE COULD CREATE AN ELECTRIC SHOCK HAZARD.**

2.3 PACKAGES AVAILABLE

2.3.1 Manual Cutting Packages

PowerCut 875 packages listed on the front cover and below, includes the following components:

PT-32 Torch, 75° head, 25' (7.6m) 0558001971
PT-32 Torch, 75° head, 50' (15.2m) 0558001972
PT-32 Spare Parts Kit (see Table 2-1) 0558002822
PowerCut 875 Console/Power Source ..... See below

Depending on the choice of input power, each package includes the following appropriate Powercut 875 Console/Power Source:

208/230 V, 50/60 Hz, 1 or 3-phase ..... P/N 0558002190
460 V, 50/60 Hz, 3-phase ..... P/N 0558002191
575 V, 60 Hz, 3-Phase ..... P/N 0558002923

PowerCut 875 Manual Cutting Packages:

208/230 V, 25' (7.6m) Package ..... P/N 0558002787
208/230 V, 50' (15.2m) Package ..... P/N 0558002788
460 V, 25' (7.6m) Package ..... P/N 0558002789
460 V, 50' (15.2m) Package ..... P/N 0558002790
575 V, 25' (7.6m) Package ..... P/N 0558002927

Table 2-1. PT-32 Spare Parts Kit, P/N 0558002822, Contents

Quantity	Part Number	Description
4	0558002618	50-70 Amp Nozzle
1	0558002908	40 Amp Nozzle
3	0558001969	Electrode
2	0558001957	Heat Shield
1	0558001959	Valve Pin
1	0558002393	Stand Off Guide
1	19129	Wrench
1	17672	Lubricant

2.4 SPECIFICATIONS

Table 2-2. Powercut 875 Specifications

Rated Output	60% Duty Cycle*	60 A @ 100 V dc
	100% Duty Cycle*	50 A @ 104 V dc
Output Current Range		20 to 60 Amperes
Open Circuit Voltage		275 V dc
Rated Primary Input @ 7.2 kW Max. Output Power 60 A @ 120 Vdc	208/230 V ac, 50/60 Hz, 3-phase	26/24 A/phase
	208/230 V ac, 50/60 Hz, 1-phase	55/49 A
	460 V ac, 50/60 Hz, 3-phase	11 A/phase
	575 V ac, 50/60 Hz, 3-phase	9 A/phase
Power Factor @ 60 Amperes Output		74% (208/230 V, 1-phase)
		90% (208/230 V, 3-phase)
		92% (460 & 575 V, 3-phase)
Efficiency @ 60 Amperes Output		90% Typical
Current Capacity	PT-32	80 A DCSP
Air Requirements	PT-32	320 cfh @ 75 psig (151 l/min @ 5.2 bars)
Dimensions	Length	30.3" (770 mm)
	Height	16.5" (419 mm)
	Width	
	w/o opt. storage	12.5" (318 mm)
	w/ opt. torch storage	15.5" (394 mm)
Weight of Powercut 875 System		87 lbs (39.5 kg)
Shipping Weight		112 lbs (51 kg)

*Duty cycle is based on a 10-minute period; therefore, a 60-percent duty cycle means the power source may operate for 6 minutes with a cool down period of 4 minutes and a 100-percent duty cycle means the power source may operate continuously.

Table 2-3. PT-32 Torch Specifications

Current Capacity (100% Duty)	90 A DCSP
Length of Service Lines	25 ft. or 50 ft.
Weight	
25' (7.6m)	5.2 lbs (2.4kg)
50' (15.2m)	9.6 lbs (4.4 kg)

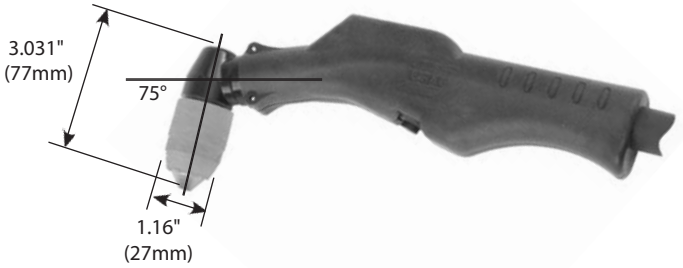


Figure 2-1. PT-32 Dimensions

PT-32 CUTTING SPEEDS
AIR @ 70 PSI and OUTPUT CURRENT 40AMPS

Material	Thickness (In.)	Cutting Speed (IPM)
Carbon Steel	1/16	200
	1/8	98
	1/4	36
	3/8	18
	1/2	11
Stainless Steel	1/16	138
	1/8	58
	1/4	18
	3/8	10
	1/2	6
Aluminum	1/16	200
	1/8	110
	1/4	48
	3/8	17
	1/2	14

Figure 2-2. PT-32/Powercut 875 Cutting Performance

Power Output increases with Stand Off Distance!

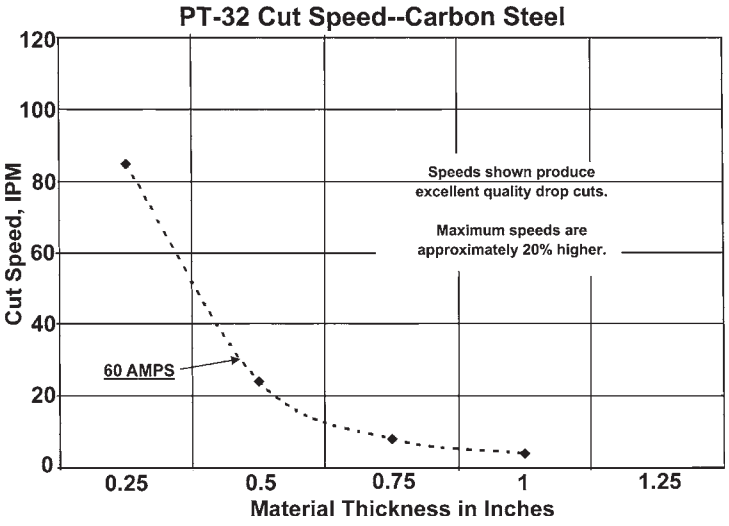


Figure 2-3. PT-32/Powercut 875 Cutting Performance

2.5 OPTIONAL ACCESSORIES

1. **Torch Wrap/Spare Parts Kit Holder, P/N 0558003013**
   Units can be mounted to either side of machine using the two upper mounting positions of the end cap handles.

2. **Wheel Cart, P/N 0558003014**
   This 3 7/8" high cart has front and rear heavy duty swivel caster to make it easier to roll the Powercut 875 around the job site.

SECTION 3 INSTALLATION

3.1 GENERAL

Proper installation is important for satisfactory and trouble-free operation of the PowerCut 875 cutting package. It is suggested that each step in this section be studied carefully and followed closely.

3.2 EQUIPMENT REQUIRED

A source of clean, dry air that supplies 360 cfh at 75 psig is required for the cutting operation. The air supply should not exceed 150 psig (the maximum inlet pressure rating of the air filter-regulator supplied with the package). A Brass 45° 1/4" NPT Female x 1/4" NPT Male Street Elbow is recommended for attaching the air hose to the regulator . This elbow will provide greater clearance around the handle. (See Figure 6-7 on Page 47) for ordering information or obtain from a Hardware Supplier.

3.3 LOCATION

Adequate ventilation is necessary to provide proper cooling of the PowerCut 875. The amount of dirt, dust, and excessive heat to which the equipment is exposed, should be minimized. There should be at least one foot of clearance between the PowerCut 875 power source and wall or any other obstruction to allow freedom of air movement through the power source.

WARNING

INSTALLING OR PLACING ANY TYPE OF FILTERING DEVICE WILL RESTRICT THE VOLUME OF INTAKE AIR, THEREBY SUBJECTING THE POWER SOURCE INTERNAL COMPONENTS TO OVERHEATING. THE WARRANTY IS VOID IF ANY TYPE OF FILTER DEVICE IS USED.

3.4 INSPECTION

A. Remove the shipping container and all packing material and inspect for evidence of concealed damage which may not have been apparent upon receipt of the PowerCut 875. Notify the carrier of any defects or damage at once.

B. Check container for any loose parts prior to disposing of shipping materials.

C. Check air louvers and any other openings to ensure that any obstruction is removed.

WARNING

ELECTRIC SHOCK CAN KILL! PRECAUTIONARY MEASURES SHOULD BE TAKEN TO PROVIDE MAXIMUM PROTECTION AGAINST ELECTRICAL SHOCK. BE SURE THAT ALL POWER IS OFF BY OPENING THE LINE (WALL) DISCONNECT SWITCH AND BY UNPLUGGING THE POWER CORD TO THE UNIT WHEN CONNECTIONS ARE MADE INSIDE OF THE POWER SOURCE.

3.5 PRIMARY ELECTRICAL INPUT CONNECTIONS (FIGURE 3-1)

The PowerCut 875 consoles are equipped with a 10 ft (3.0 m), 4-conductor input power cable for 3-phase connection. If single-phase connection is desired, tape back the red wire on the input power cable.

NOTE: The 208/230 V models are equipped with a plug for single-phase connection only. The plug is mounted to a 4-conductor cable. If 3-phase connection is desired, remove and discard the plug and proceed as described above.

CAUTION

BE SURE THAT THE POWER SOURCE IS PROPERLY CONFIGURED FOR YOUR INPUT POWER SUPPLY. DO NOT CONNECT A POWER SOURCE CONFIGURED FOR 208/230 V TO A 460 V INPUT POWER SUPPLY. DAMAGE TO THE MACHINE MAY OCCUR.

NOTE: If using 200(208) V input power, the PowerCut 875 must be reconnected for 200 V use as directed in Section 3.7 and Fig. 3-2.

A line (wall) disconnect switch with fuses or circuit breakers should be provided at the main power panel (see Fig. 3-1 and Table 3-1 for fuse sizes). The input power cable of the console may be connected directly to the disconnect switch or you may purchase a proper plug and receptacle from a local electrical supplier. If using plug/receptacle combination, see Table 3-1 for recommended input conductors for connecting receptacle to line disconnect switch.

WARNING

THE CHASSIS MUST BE CONNECTED TO AN APPROVED ELECTRICAL GROUND. FAILURE TO DO SO MAY RESULT IN ELECTRICAL SHOCK, SEVERE BURNS OR DEATH.

Table 3-1. Recommended Sizes For Input Conductors and Line Fuses

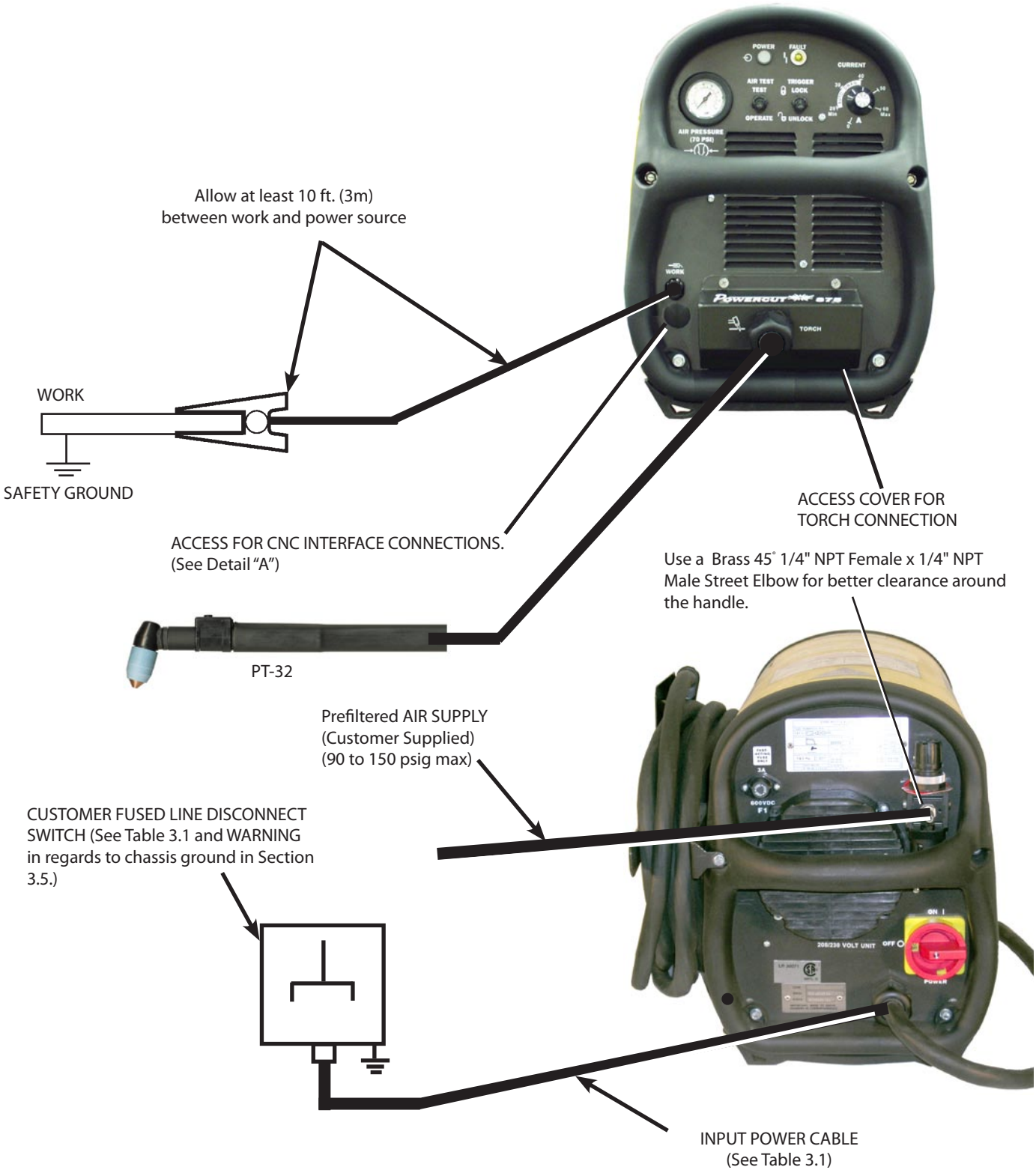
Input Requirements			Input & Gnd Conductor CU/AWG	Fuse Size Amps
Volts	Phase	Amps		
208	1	55A	6	80
208	3	26A/Ph.	6	50
230	1	49A	6	80
230	3	24A/Ph.	6	50
460	3	11	10	25
575	3	9	10	20

3.6 SECONDARY (OUTPUT) CONNECTIONS (REFER TO FIG. 3-1)

1. For operator safety, the torch connections are located on the output terminal board behind the lower portion of the front panel. Remove access cover to output terminal compartment from lower front panel of power source.
2. Thread the power cable, pilot arc cable and switch lead of the PT-32 through the open bushing of the cover. Connect power cable to the torch fitting (left-hand threads); attach the pilot arc cable connection to the Pilot Arc bulkhead adaptor; and plug in the switch lead to the torch switch receptacle on the output terminal. Make sure the power and pilot arc cable connections are wrench-tight. Make sure plug of switch lead is firmly inserted in place.
3. Reassemble the access cover to the power source.
4. Connect your air supply to the inlet connection of the filter-regulator.
5. Clamp the work cable to the workpiece. Be sure the workpiece is connected to an approved earth ground with a properly sized ground cable.

WARNING

BEFORE MAKING ANY CONNECTIONS TO THE POWER SOURCE OUTPUT TERMINALS, MAKE SURE THAT ALL PRIMARY INPUT POWER TO THE POWER SOURCE IS DEENERGIZED (OFF) AT THE MAIN DISCONNECT SWITCH AND THAT THE INPUT POWER CABLE IS UNPLUGGED.



NOTE: ***The 208/230 V models are equipped with a plug for single-phase connection only. The plug is mounted to a 4-conductor cable. If 3-phase connection is desired, remove and discard the plug and refer to Sect. 3.5.***

Figure 3-1. PowerCut 875 Interconnection Diagram

3.7 CONNECTING POWERCUT 875 FOR 200(208) VAC INPUT

The PowerCut 875 power source with 200/230 vac, 1-phase input capability is factory set for 230 vac input. If using 200(208) vac input, the PowerCut 875 must be reconnected as follows before connecting to your input power:

1. Remove rear handle, slide left side panel out.
2. Locate the Input Bridge (IBR) and TB5 terminal block (see Fig. 1) on the left side towards the rear panel. Disconnect the gray lead from TB5-2 and then connect it to TB5-1. *(See Diagram on inside of lower panel)*.
3. Locate the output bridge (D1) on left side towards the front panel (see Fig. 2). Disconnect and swap leads X2 and X3 from the main transformer. For 200(208) vac input, X2 is connected to TB3 and X3 is connected to terminal 3 of D1. Make sure the connections are firmly tightened.
4. Leave all other wires the same.
5. Reinstall cover and connect the PowerCut 875 to 208 vac input power.

WARNING

ELECTRIC SHOCK CAN KILL! PRECAUTIONARY MEASURES SHOULD BE TAKEN TO PROVIDE MAXIMUM PROTECTION AGAINST ELECTRICAL SHOCK. BE SURE THAT ALL POWER IS OFF BY OPENING THE LINE (WALL) DISCONNECT SWITCH AND BY UNPLUGGING THE POWER CORD TO THE UNIT WHEN RECONNECTING FOR 200(208) VAC INPUT.

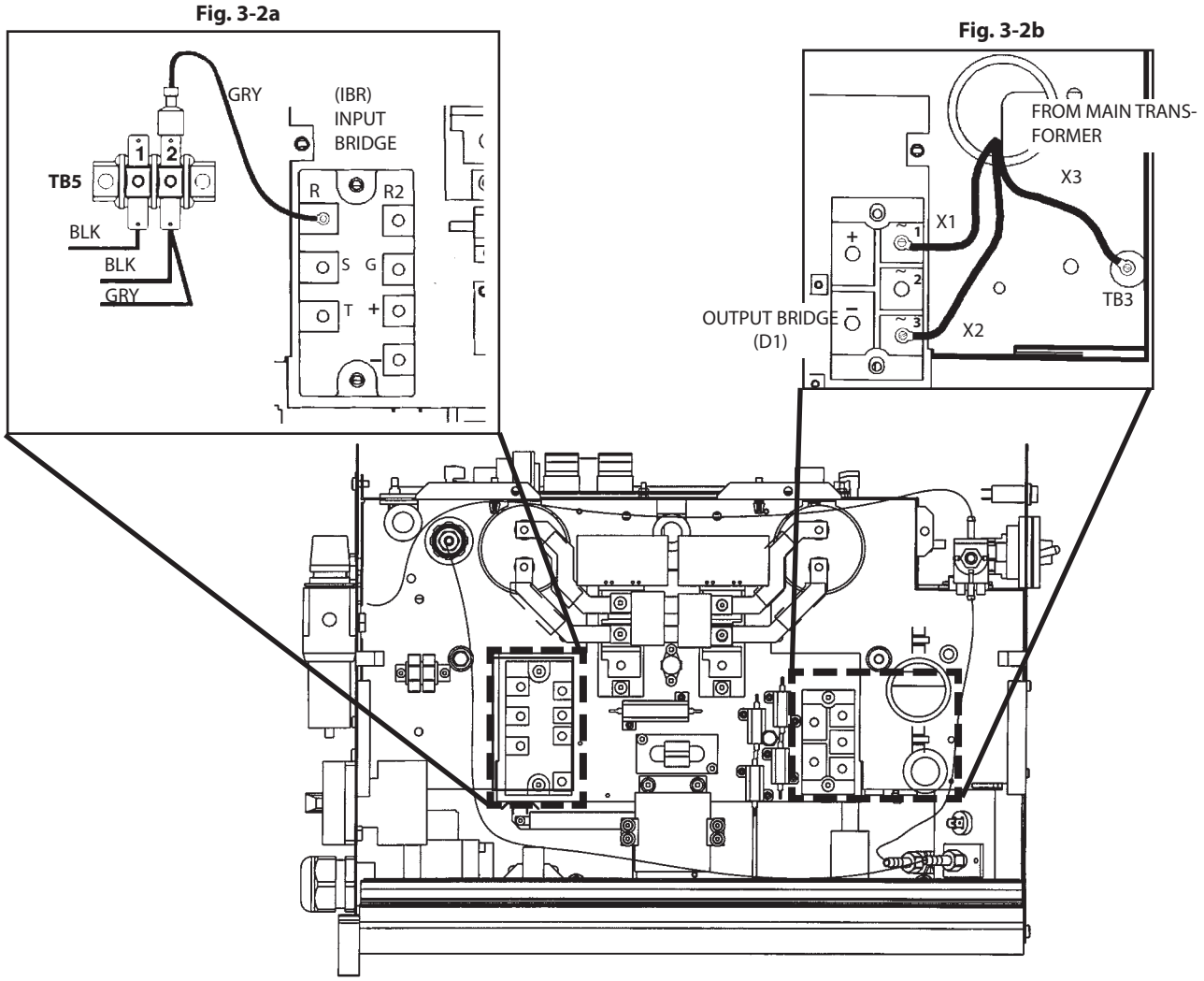


Figure 3-2. Original Factory Setup for 230 Vac Input on Power Source with 200/230 Vac Input Power Capability

4.1 OPERATION

4.2 PowerCut 875 CONTROLS (FIGURE 4-1)

A. **Power Switch (located on rear panel).** When placed in ON position, the white pilot light will glow indicating control circuit is energized and the cooling fan will run.

B. **Output Current Control.** Adjustable from 20 to 60 amperes.

C. **Air Test Switch/Air Regulator.** When placed in Test position, air filter-regulator can be adjusted to desired pressure (65-75 psig) before cutting operations. Allow air to flow for a few minutes. This should remove any condensation that may have accumulated during shutdown period. Be sure to place switch in OPERATE position before starting cutting operations.

D. **Trigger Lock Switch.** When placed in LOCK position, this permits releasing torch switch button after cutting arc has been initiated. To extinguish arc at end of cut, press and release torch switch button again or pull torch away from work. When placed in UNLOCK position, torch switch must be held closed by the operator during the entire cutting operation and then released at the end of cut.

E. **Fault Light.** (see label illustration below) Will glow amber under the following conditions and operations will come to a complete stop.

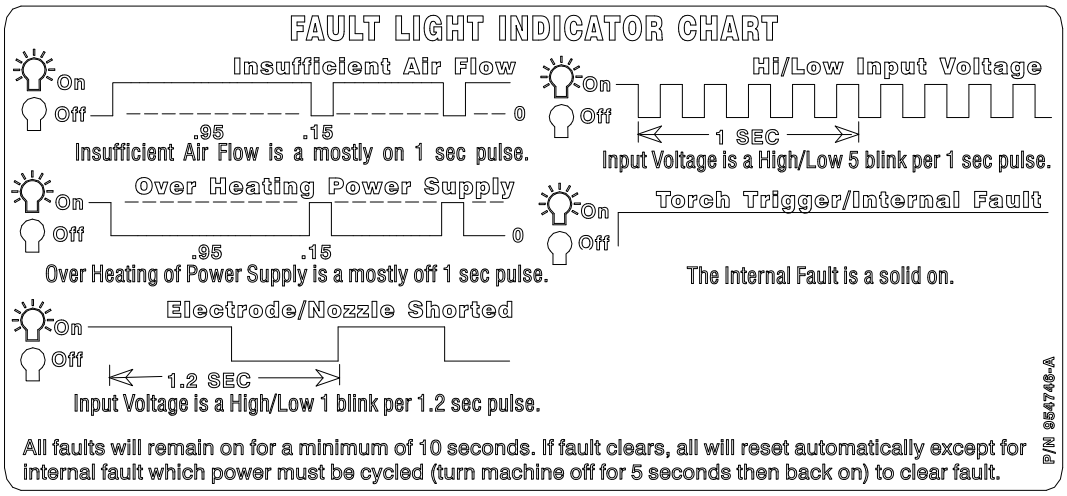
Flow Fault: The fault light will be **mostly on** but will flick off for about 1/10th of a second every second. This indicates that the air flow supply is low or has no back pressure.

Over Temperature: The fault light will be **mostly off** but will flick on for about 1/10th of a second every second. This indicates that the duty cycle has been exceeded. Allow the power source to cool down before returning to operate.

High/Low Line Voltage: The fault light will **rapidly blink on and off** (five times per second). This indicates that the input voltage is outside the "+ or -" 15% range of the input rating.

Over-Current: The fault light will be on **continuously**. This indicates that input current has been exceeded.

All fault signals will remain on for a minimum of 10 seconds. If fault clears, all will reset automatically except for over-current. To clear over-current, the power must be shut off for 5 seconds and then turned back on.



F. **Air Pressure Gauge:** Recommended air pressure should be set to 70 psi.

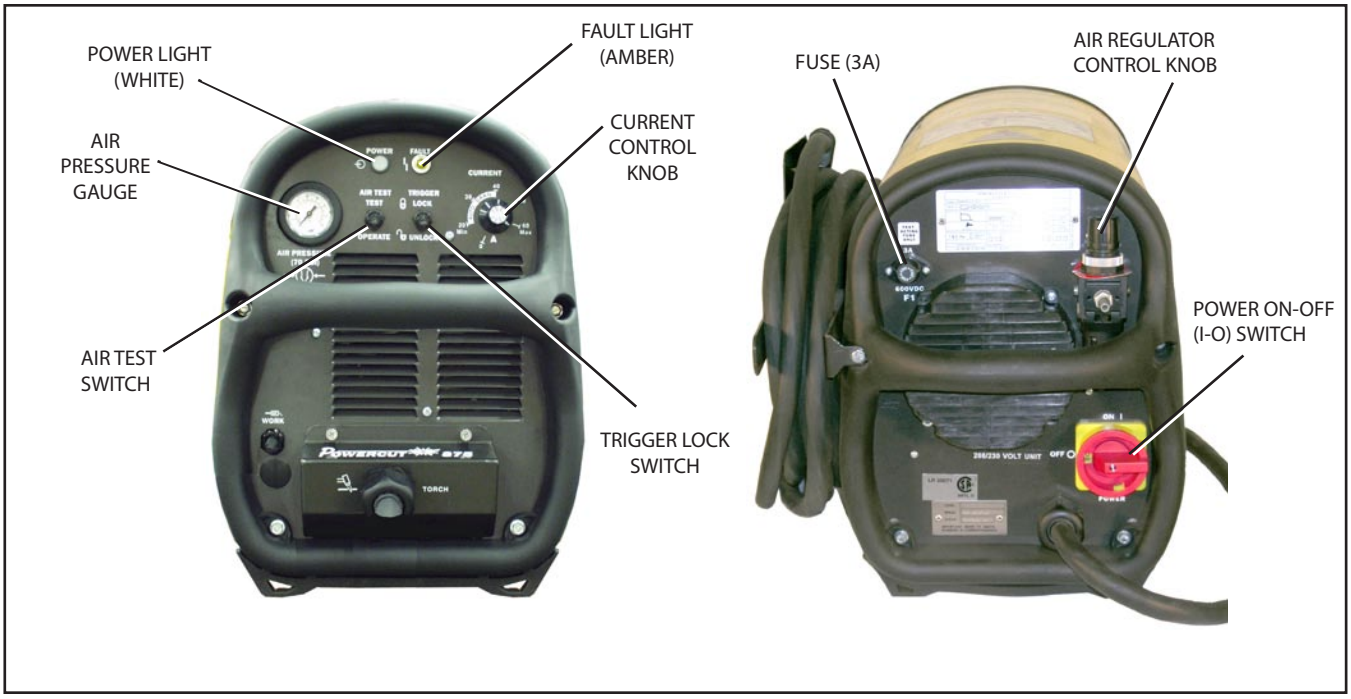


Figure 4-1. PowerCut 875 Controls

WARNING

ELECTRIC SHOCK CAN KILL.
- **DO NOT OPERATE THE UNIT WITH THE COVER REMOVED.**
- **DO NOT APPLY POWER TO THE UNIT WHILE HOLDING OR CARRYING THE UNIT.**
- **DO NOT TOUCH ANY TORCH PARTS FORWARD OF THE TORCH HANDLE (NOZZLE, HEAT SHIELD, ELECTRODE, ETC.) WITH POWER SWITCH ON.**

CAUTION

POSITION THE POWERCUT 875 AT LEAST 10 FEET (3 METERS) FROM THE CUTTING AREA. SPARKS AND HOT SLAG FROM THE CUTTING OPERATION CAN DAMAGE THE UNIT.

4.3 CUTTING WITH THE PT-32

WARNING

ARC RAYS CAN BURN EYES AND SKIN;
NOISE CAN DAMAGE HEARING.

- **WEAR WELDING HELMET WITH NO. 6 OR 7 LENS SHADE.**
- **WEAR EYE, EAR, AND BODY PROTECTION.**

Use the following procedures to cut with the PT-32 torch (Figure 4-5).

A. Hold the torch nozzle approximately 1/8 to 3/16 inch above the work and tilted at about 15 - 30°. This reduces the chance of spatter entering the nozzle. If the PT-32's standoff tool (P/N 0558002393) is being used, the difference between the electrode and workpiece is approximately 3/16-inch.

B. Depress the torch switch. Air should flow from the torch nozzle.

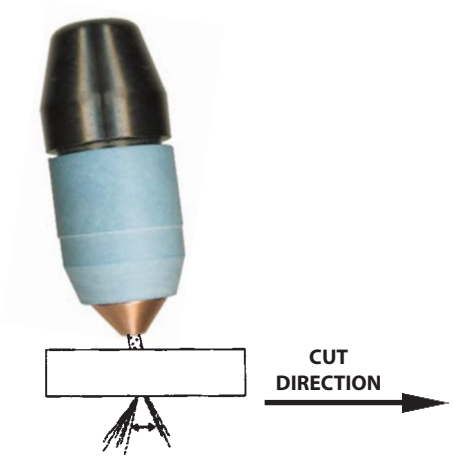


Figure 4-2. Recommended Torch Angle of 5° to 15°

C. Two seconds after depressing the torch switch, the pilot arc should start. The main arc should immediately follow, allowing the cut to begin. (If using the trigger LOCK mode, torch switch may be released after establishing the cutting arc.)

D. After starting the cut, the torch should be maintained at a 5-15° forward angle (Figure 4-2). This angle is especially useful in helping to create a "drop" cut. When not using the standoff guide, the nozzle should be held approximately 1/4 inch from the work.

E. When ending a cut, the torch switch should be released (press and release if using trigger LOCK mode) and lifted off the workpiece just before the end of the cut. This is to prevent the high frequency from reigniting after cutting arc extinguishes and causing damage to the nozzle (double arcing).

F. For rapid re-starts, such as grate or heavy mesh cutting, do not release the torch switch. In the postflow mode, the arc can be re-started immediately by depressing the torch switch. This avoids the 2-second preflow portion of the cutting cycle.

CAUTION **REPLACE ELECTRODE BEFORE PITTING BECOMES DEEPER THAN .06 INCH (1.5 MM)**

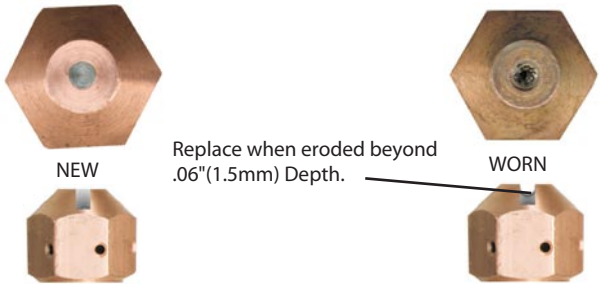


Figure 4-3. Electrode Wear Limit

NOTE: When replacing the nozzle, always inspect the electrode for wear. If more than .06" of electrode Hafnium has eroded, replace the electrode. If the electrode is used beyond this recommended wear limit, damage to the torch and power source may occur. Nozzle life is also greatly reduced when using the electrode below the recommended limit. Refer to Figure 4-3.

4.3.1. Drag Cutting with the PT-32/PowerCut 875 System

If dragging cutting is desired, attach ESAB's standoff guide (P/N 0558002393). Then follow steps in Section 4.3. If drag cutting is desired for thin material, under 3/8", remove 70 amp nozzle from torch head, insert ESAB's 40 amp nozzle (P/N 0558002908). Lower current level to 40 amps or lower, *(see Auto Drag Scale on front panel)*. Then follow steps in Section 4.3. Also refer to PT-32 Instruction Manual No. F-15-440.

NOTICE

Drag cutting, even with lower current levels may significantly reduce the life of torch consumables. Attempting to Drag Cut with higher currents (70 amps) may cause immediate catastrophic consumable damage.

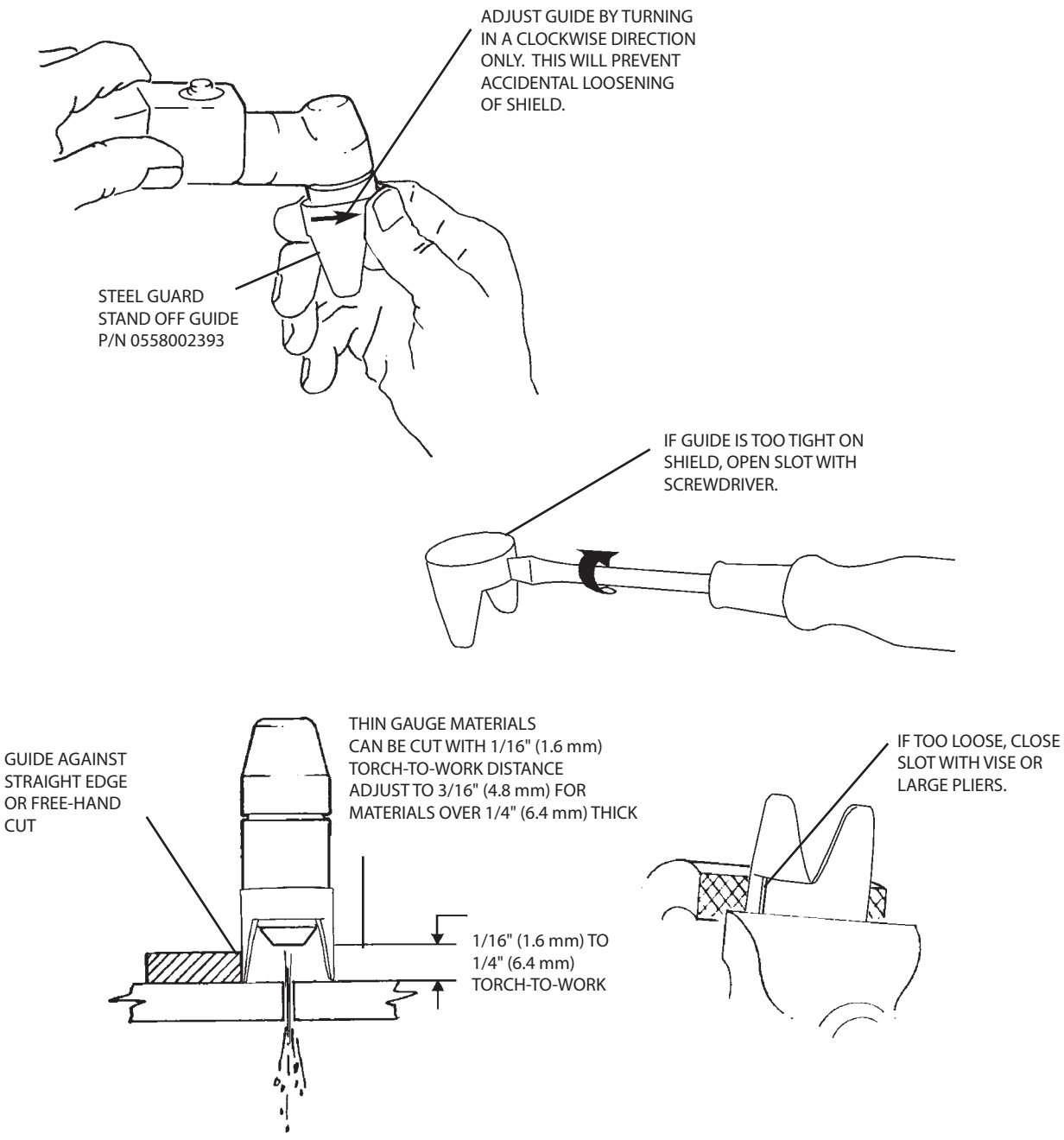


Figure 4-4. Installation and Operation of Steel Heat Shield Guards

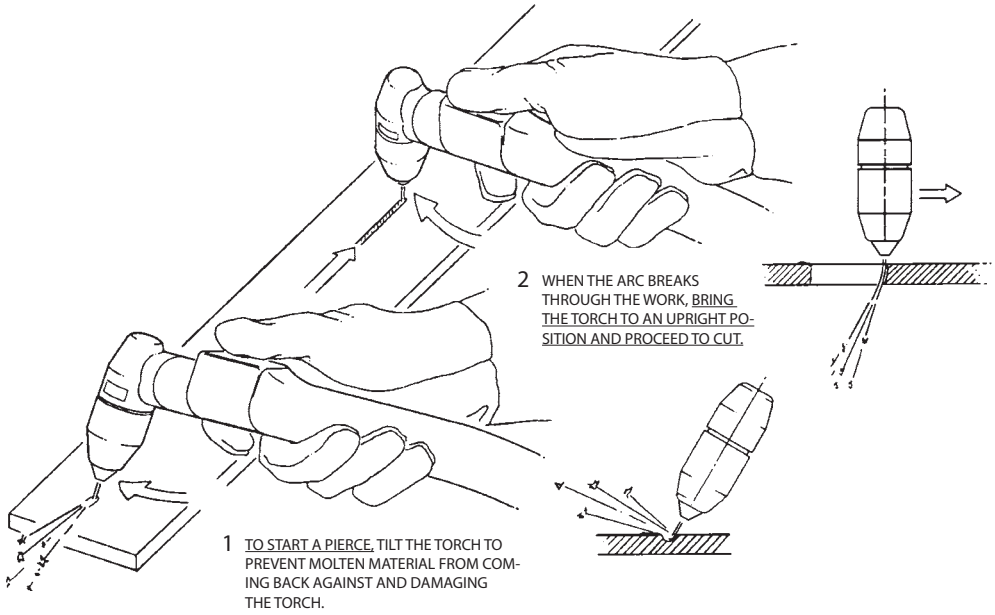


Figure 4-5. Piercing Technique using the PT-32

4.4 COMMON CUTTING PROBLEMS

Listed below are common cutting problems followed by the probable cause of each. If problems are determined to be caused by the PowerCut 875, refer to the maintenance section of this manual. If the problem is not corrected after referring to the maintenance section, contact your ESAB distributor.

A. Insufficient Penetration.

1. Current too low.
2. Cutting speed too fast.
3. Damaged cutting nozzle.
4. Improper air pressure.
5. Low air flow rate.

B. Main Arc Extinguishes.

1. Cutting speed too slow.
2. Worn electrode.

C. Dross Formation. (In some materials and thicknesses, it may be impossible to get dross-free cuts.)

1. Current too low.
2. Cutting speed too fast or too slow.
3. Improper air pressure.
4. Faulty nozzle or electrode.
5. Low air flow rate.

D. Double Arcing. (Damaged Nozzle Orifice.)

1. Low air pressure.
2. Damaged cutting nozzle.
3. Loose cutting nozzle.
4. Heavy spatter accumulation on nozzle.

E. Uneven Arc.

1. Damaged cutting nozzle or worn electrode.

F. Unstable Cutting Conditions.

1. Incorrect cutting speed.
2. Loose cable or hose connections.
3. Electrode and/or cutting nozzle in poor condition.

G. Main Arc Does Not Strike.

1. Worn electrode.
2. Loose connections.
3. Worn cable not attached.

H. Poor Consumable Life.

1. Improper gas pressure.
2. Contaminated air supply.
3. Low air flow rate.

5.1 GENERAL

If this equipment does not operate properly, stop work immediately and investigate the cause of the malfunction. Maintenance work must be performed by an experienced person, and electrical work by a trained electrician. Do not permit untrained persons to inspect, clean, or repair this equipment. Use only recommended replacement parts.

WARNING **BE SURE THAT THE WALL DISCONNECT SWITCH OR WALL CIRCUIT BREAKER IS OPEN BEFORE ATTEMPTING ANY INSPECTION OR WORK INSIDE OF THE POWERCUT 875.**

5.2 INSPECTION AND CLEANING

Frequent inspection and cleaning of the PowerCut 875 is recommended for safety and proper operation. Some suggestions for inspecting and cleaning are as follows:

A. Check work cable for secured connection to workpiece.
B. Check safety earth ground at workpiece and at power source chassis.
C. Check heat shield on torch. It should be replaced if damaged.
D. Check the torch electrode and cutting nozzle for wear on a daily basis. Remove spatter or replace if necessary.
E. Make sure cable and hoses are not damaged or kinked.
F. Make sure all plugs, fittings, and ground connections are tight.
G. With all input power disconnected, and wearing proper eye and face protection, blow out the inside of the PowerCut 875 using low-pressure dry compressed air.
H. Occasionally, bleed all water from the filter beneath the air filter-regulator.

CAUTION **Water or oil occasionally accumulates in compressed air lines. Be sure to direct the first blast of air away from the equipment to avoid damage to the PowerCut 875.**

NOTE:

Schematics and Wiring Diagrams on 279.4mm x 431.8mm (11″ x 17″) paper are included inside the back cover of this manual.

5.3 PT-32 TORCH CONSUMABLE PARTS

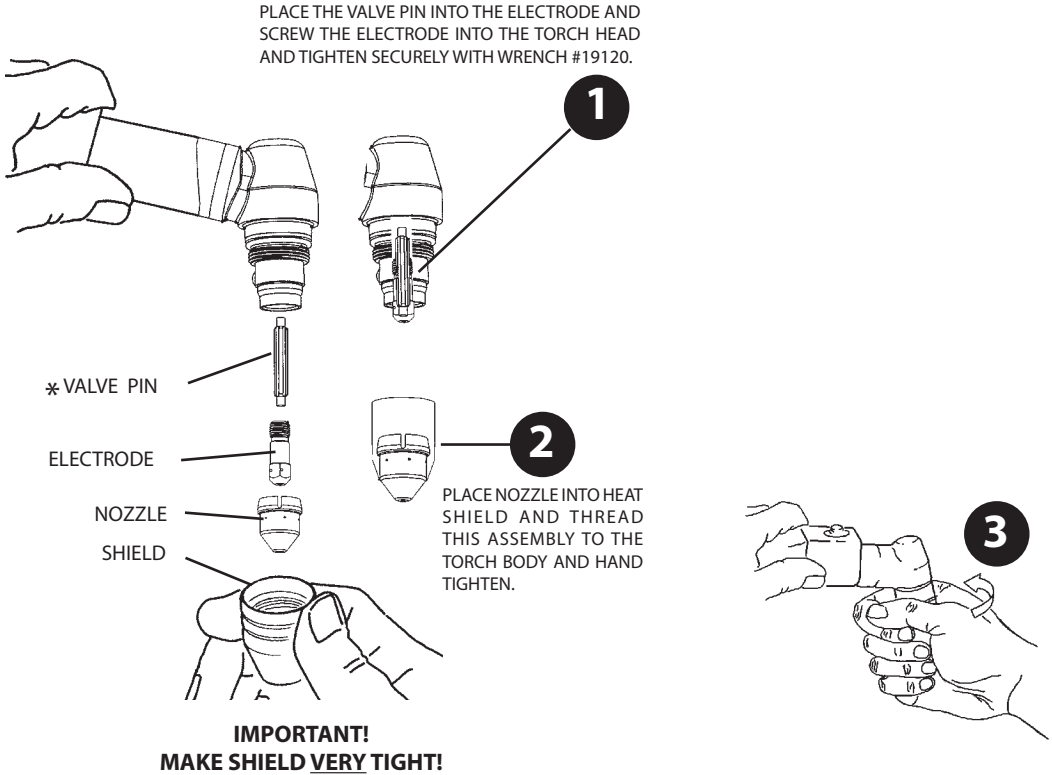
To assemble the consumable parts, refer to Figure 5-1.

A. Place nozzle, swirl baffle, electrode, and valve pin into the shield as shown.

B. Thread assembly to the torch body and hand tighten. **Always make sure the shield is very tight before cutting.**

WARNING **MAKE SURE POWER SWITCH ON POWERCUT 875 IS IN OFF POSITION BEFORE WORKING ON THE TORCH.**

WARNING **THE PT-32 TORCH HEAD CONTAINS A GAS FLOW CHECK VALVE THAT ACTS IN CONJUNCTION WITH THE FLOW SWITCH AND CIRCUITRY WITHIN THE POWER SOURCE. THIS SYSTEM PREVENTS THE TORCH FROM BEING ENERGIZED WITH HIGH VOLTAGE IF THE TORCH SWITCH IS ACCIDENTALLY CLOSED WHEN THE SHIELD IS REMOVED. ALWAYS REPLACE TORCH WITH THE PROPER TORCH MANUFACTURED BY ESAB SINCE IT ALONE CONTAINS ESAB'S PATENTED SAFETY INTERLOCK.**



* The valve pin is a crucial member of the system. Its function is to open the gas flow check valve that is permanently assembled within the torch head. If the pin is not correctly placed in the electrode, the valve will not open and the system will not function. The valve pin also improves electrode cooling by increasing the velocity of air over the inner surface of the electrode.

Figure 5-1. Assembly of PT-32 Torch Front End Parts

5.4 IGBT Handling & Replacement

Since IGBT gates are insulated from any other conducting region, care should be taken to prevent static build up, which could possibly damage gate oxides. All IGBT modules are shipped from the factory with conductive foam contacting the gate and emitter sense pins.

Always ground parts touching gate pins during installation. In general, standard ESD predictions application to FETs should be followed.

Other handling precautions that should also be observed are as follows:

- Use grounded work station with grounded floors and grounded wrist straps when handling devices.
- Use a 100W resistor in series with the gate when performing curve tracer tests.
- Never install devices into systems with power connected to the system.
- Use soldering irons with grounded tips when soldering to gate terminals.

When mounting IGBT modules on a heatsink, certain precautions should be taken to prevent any damage against a sudden torque. If a sudden torque ("one-sided tightening") is applied at only one mounting terminal the ceramic insulation plate or silicon chip inside the module may get damaged.

The mounting screws are to be fastened in the order shown in Figure 5-2. Also, care must be taken to achieve maximum contact (i.e. minimum contact thermal resistance) for the best heat dissipation.

Application of a thermal pad on the contact surface improves it thermal conductivity. See Replacement Parts section for the required pad.

A torque wrench should be used. Tighten mounting screws to 28 in-lbs; wire connecting screws to 19 in-lbs. If torque is too heavy, the device can damage like the above "one-sided tightening".

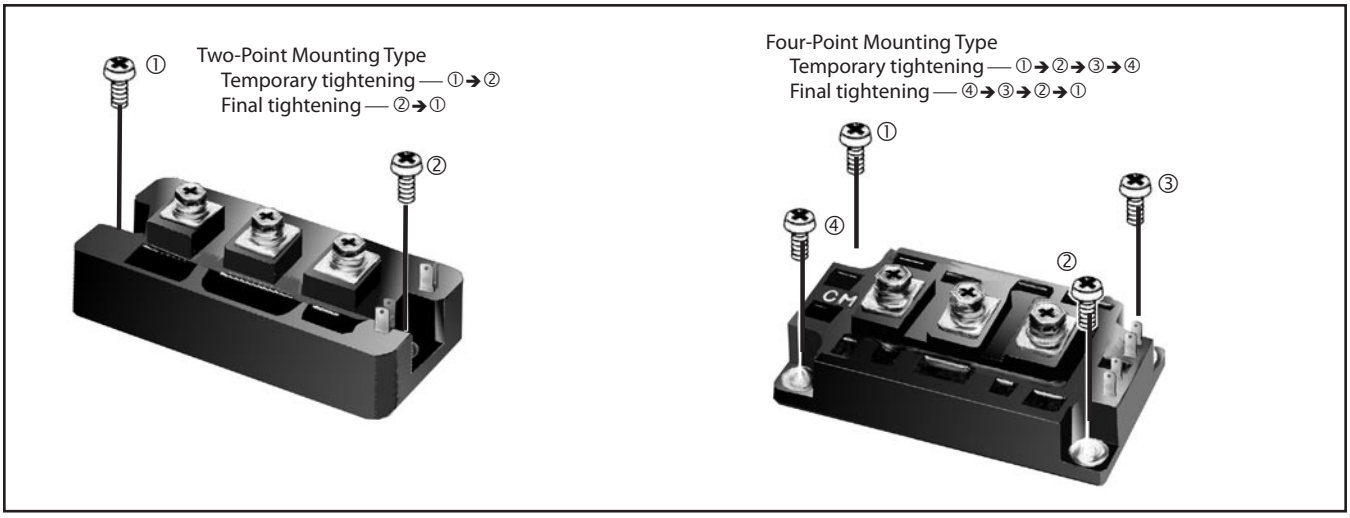


Figure 5-2. Screw Fastening Order

5.5 TROUBLESHOOTING

Check the problem against the symptoms in the following troubleshooting guide. The remedy may be quite simple. If the cause cannot be quickly located, shut off the input power, open up the unit, and perform a simple visual inspection of all the components and wiring. Check for secure terminal connections, loose or burned wiring or components, bulged or leaking capacitors, or any other sign of damage or discoloration.

The cause of control malfunctions can be found by referring to the sequence of operations and electrical schematic diagram (Figure 5-1) and checking the various components. A volt-ohmmeter will be necessary for some of these checks.

WARNING **ELECTRIC SHOCK CAN KILL! BE SURE THAT ALL PRIMARY POWER TO THE MACHINE HAS BEEN EXTERNALLY DISCONNECTED. OPEN THE LINE (WALL) DISCONNECT SWITCH OR CIRCUIT BREAKER BEFORE ATTEMPTING INSPECTION OR WORK INSIDE OF THE POWER SOURCE.**

WARNING **VOLTAGES IN PLASMA CUTTING EQUIPMENT ARE HIGH ENOUGH TO CAUSE SERIOUS INJURY OR POSSIBLY DEATH. BE PARTICULARLY CAREFUL AROUND EQUIPMENT WHEN THE COVERS ARE REMOVED.**

NOTE: Before checking voltages in the circuit, disconnect the power from the high frequency generator to avoid damaging your voltmeter.

5.6 TROUBLESHOOTING GUIDE

A. Power Light (PL1) does not come on.

1. Visually inspect the machine for any damage.

2. Check if the cooling fan is running. If not, then check the following :

   a. Check if the machine power cord is plugged to the input power receptacle.
   b. Measure the input power at the receptacle. If not present, then check the wall disconnect switch and it's fuses.
   c. Check Fuse (F1). If fuse is ok, then check the input circuit breaker (CB1) for proper operation. Replace if defective.

3. If above items check OK , the problem is internal. Send unit to an Authorized Repair Station for repair.
   a. If the cooling fan is running, then measure voltage between pins P2-11 and P2-14 of the control board (should be 115 VAC). If there is no voltage, then replace transformer T2.
   b. If the voltage is present, then the pilot light may be burnt out.

B. No Air Flow

1. Check air inlet supply. Unit requires 360 CFH at 75 psig.

2. Check air hose and connections. Tighten if leaking.

3. Does air flow when "air test" switch is in test position?

   a. If not, check torch consumables, replace if necessary.
   b. If above items check OK , the problem is internal. Take unit to an Authorized Repair Station for repair.

C. The Power light is on, but nothing happens when the torch switch is depressed. Fault light does not activate.

NOTE: Unplug high frequency connection before attempting to work on this problem.

1. Check the Pilot Arc fuse (F2) located on the rear panel. An open fuse will indicate a short in the torch. If the fuse is all right, then check the following:

    a. With the machine power on, depress the torch switch. On the control board the LED 1 should be lit as long as the switch is depressed. If not then check:

        i. Turn power off to the machine. Unplug Control board. Put an ohmmeter across P5-1 and P5-2 to take resistance reading. Depress torch switch. Meter should read a short. If not, then one of the following is not working properly:

        ii. Torch switch or the leads. Unplug the torch switch leads at the machine. Put a meter across the two plug pins. Should read a short when the torch switch is depressed. If not, then either broken switch leads or malfunctioning switch.

    b. Check T2 transformer secondary voltages at the plugs P1 and P2. Refer to system schematic. Replace the transformer if the correct secondary voltages are not present.

    c. If everything above checks out all right, then the PCB1 Control Board should be replaced.

D. Fault light activates when torch switch is closed.

The Fault circuit is used to monitor conditions necessary for the safe operation of the PowerCut 875. The fault light will glow amber under the following conditions and operations will come to a complete stop:

1. **High/Low line voltage**. The Fault Light will **rapidly blink on and off** (5 times per second). This indicates that the input voltage is outside the "+" or "-" 15% safe operating range rating.

2. **Flow fault** - The fault light will be **mostly on** but will blink off for 1/10th of a second every second. This indicates that the air flow is low or there is no flow to the pressure switch.
    a. Check the air pressure at the machine regulator. It should be adjusted to 65 psig. If no air pressure, check the air at the supply point. Also, check for any obstructions in the air hose.
    b. Air flow may be blocked at the torch tip. Check the torch consumables. Also check for any obstructions in the torch leads.

NOTE: If above items check OK, the problem is internal. Send unit to an Authorized Repair Station for repair.

    c. Put the 'Air Check' switch to On position. Air should flow through torch. To check if the pressure switch is open, put voltmeter leads between P1-12 and P1-1. It should read about 5 VDC. When the pressure switch closes, the voltage will drop to zero volts.
    d. Air Check switch may also be malfunctioning if the air is flowing continuously or if putting in the On position does not turn air on.

3. **Over Temperature.** The fault light will be **mostly off** but will blink on for 1/10 of a second, every second. This generally indicates that the duty cycle has been exceeded. Allow the power source to cool before returning to operate.

    a. Thermal switch may be open. It will open if the temperature at the IGBT base reaches 94°C. With the machine power off, check the continuity between P1-1 and P1-2 of the control board. If the switch is OK, then the ohmmeter should read a direct short. If not then it should read open.

b. If the switch is malfunctioning, replace it. Clean the surface of the heat sink before installing the switch.

4. **Over Current**. The fault light will be on **continuously**. This indicates that the input current to the main transformer has exceeded preset limits.

   a. To check if the output is shorted, measure the resistance by putting the ohmmeter leads (make sure to disconnect HI Frequency leads):"+" of the meter to Torch "+" output terminal and Work "-" lead of the meter to the "-" output terminal. Reading should be about 2 K Ohms. Reverse the voltmeter leads, the resistance reading should be less than 1.5 K Ohms.
   b. If the resistance reading is different than above, check the torch, the output bridge and Filter Board (PCB-5).

E. Air is On but nothing happens when torch switch is operated.

1. Check the pilot arc fuse located on the rear panel. If it is open, nothing will happen when the torch switch is depressed.

2. Check the torch. Make sure that the valve pin is installed and the heat shield is very tight.

3. Check to assure high frequency is present at the torch. If not, then listen for high frequency at the high frequency generator. It is located on the bottom/right side of the unit. The high frequency gap is set between 0.028" to 0.031" **Disconnect HI FREQUENCY leads**. Check for 115 volt supply to the high frequency unit between P2-12 & P2-13 of the control board with torch switch closed.

4. With HI FREQUENCY leads disconnected, measure open circuit voltage. It should be 275 VDC between "Work" and "Torch" terminals. If it is not present then any one of the following may not be working properly:

   a. Check the operation of the Thermal Switch. See D.3.a. above.

   b. Check Air Check switch operation. It might be stuck in On position. Pilot arc will not initiate if this switch is in the ON position. (safety reasons)

   c. Check air flow switch. There may be internal short. See D.2.c above.

   d. Measure voltage across C1 or C2 capacitor. It should be as follows:

      approx. 325 VDC for the 208/230 volt unit.
      approx. 280 VDC to 325 VDC for the 460 volt unit
      approx. 410 VDC for the 575 volt unit

      If not, one of following could be malfunctioning:

      1). Check the capacitors C1 and C2 for any damage.

      2.) Check input bridge/SCR Module (IBR) This can be checked without taking it out of the circuit using an volt/ohmeter. Replace it if found malfunctioning. Follow bridge installation instructions.

      3.) Check Inrush current resistor, R10 and SCR1. Both are located on the input bridge heat sink. Replace it if malfunctioning.

   e. IGBTs (2 on 230 V, and 1 on the 460 V units) may be blown. See IGBT installation procedure. Before replacing IGBTs, make sure to check the zener diodes and pico fuses on the IGBT driver boards.

F. High Frequency and Pilot Arc are on but Main Arc does not transfer.

1. Make sure work clamp is connected to work material.
2. Check the torch. Replace consumables if necessary.
3. Make sure the current setting potentiometer is set above 20 amps. If it is, set below 20 amps, then HI FREQUENCY will go on and off at 5 sec intervals.

G. Poor Cutting Performance.

1. Check air supply regulator . It should be adjusted to 65-75 psig.
2. The air supplied to the torch should be free of oil and water.
3. Make sure the consumables in the torch are acceptable.
4. Check open circuit voltage. See E.4 above.
5. Check the output. Use a calibrated current probe capable of measuring 100 amps in the presence of high frequency.

H. Air does not shut off.

1. Check air test, the gas solenoid valve is energized when the switch is in the "on" position.
2. Does air flow stop when the torch switch is unplugged? If yes, check and repair the torch. If not, send unit to an Authorized Repair Station for repair.
    a. Check voltage to solenoid coil, if present when torch switch is unplugged, replace PCB1. If voltage is "0", replace solenoid valve.

I. Main arc is difficult to start.

1. The most common reason is worn or missing consumables. Check and replace if necessary.
2. Input air must be clean and dry.
3. Input air pressure must be at least 75 psig.
4. Torch connections must be tight.
5. Work cable and clamp must be in good condition and must make a good electrical connection to the material to be cut.
6. If above items check OK , the problem is internal. Send unit to an Authorized Repair Station for repair.
    a. Missing or weak pilot arc. Check pilot arc fuse, open circuit voltage, pilot arc resistors and pilot arc wiring.
    b. Inoperative starter board (PCB-5).

5.7 REFERENCE VOLTAGE CHECKS

A. Control Board Assembly (PCB1)

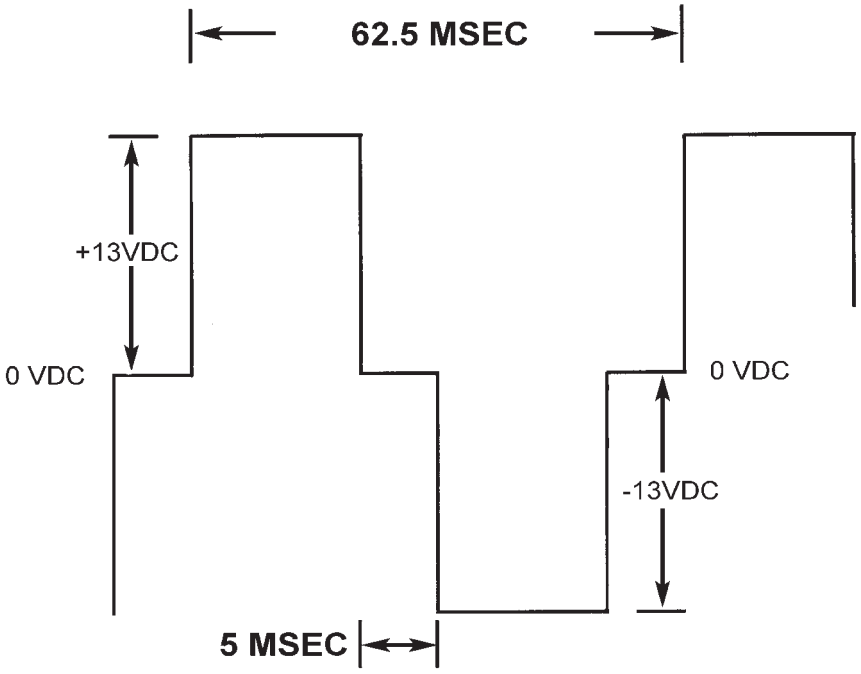
1. **LED's**

LED-1 - Torch Switch
LED-2 - High Frequency
LED-3 - Gas Solenoid Valve

2. **Voltage Test Points**

Tests are made with power on - no arc.
Disable High Frequency by disconnecting blue wire with black sleeve

TP-0 - Ground
TP-1 - +15 vdc
TP-2 - +12 vdc
TP-3 - -12 vdc
TP-4 - +5 vdc
TP-9 - IGBT's driving signal - switching frequency = 16 KHz
TP-10 - IGBT's driving signal - switching frequency = 16 KHz

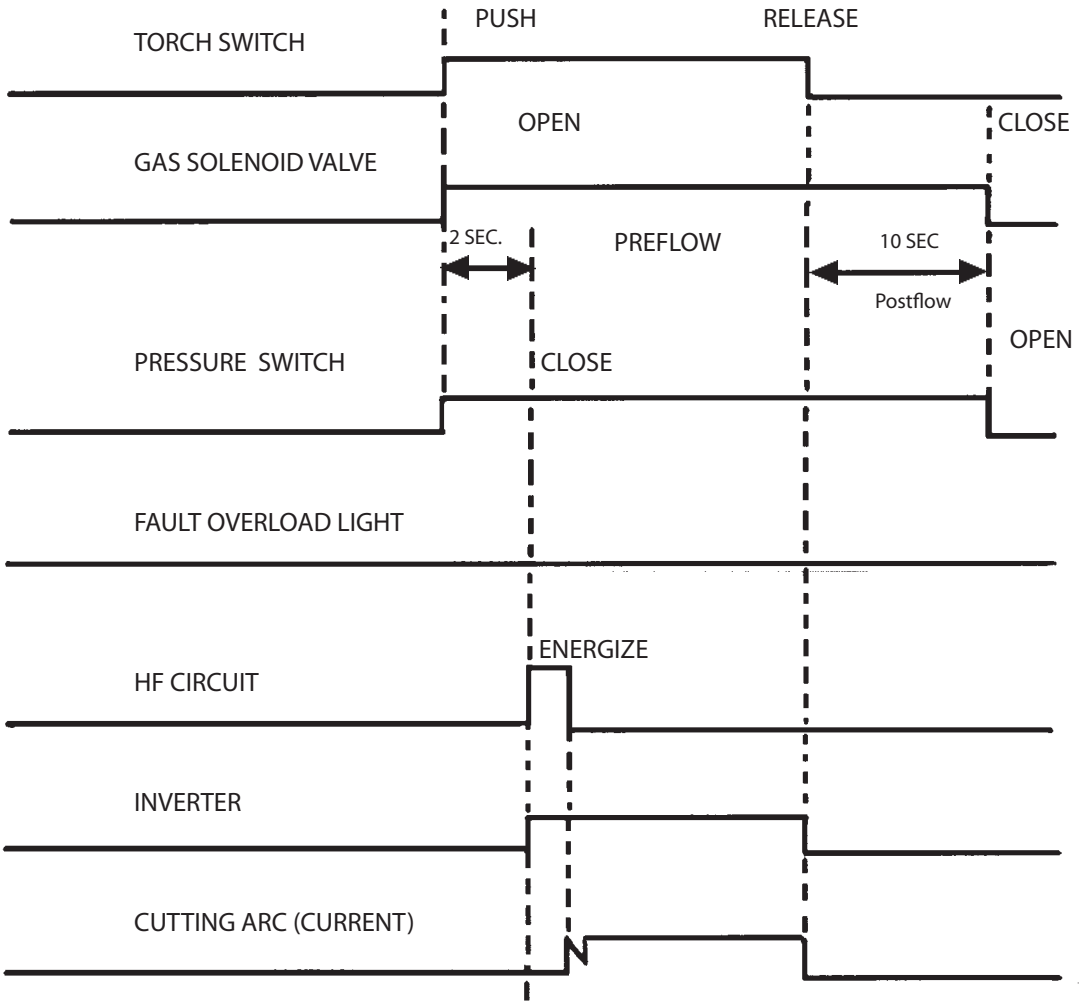


For 208/230 VAC input, the IGBT off time is 3msec.
For /460/ VAC input, the IGBT off time is 6msec.

Figure 5-3. IGBT Gating Signal

5.8 SEQUENCE OF OPERATION

A. TRIGGER LOCK "UNLOCK" position

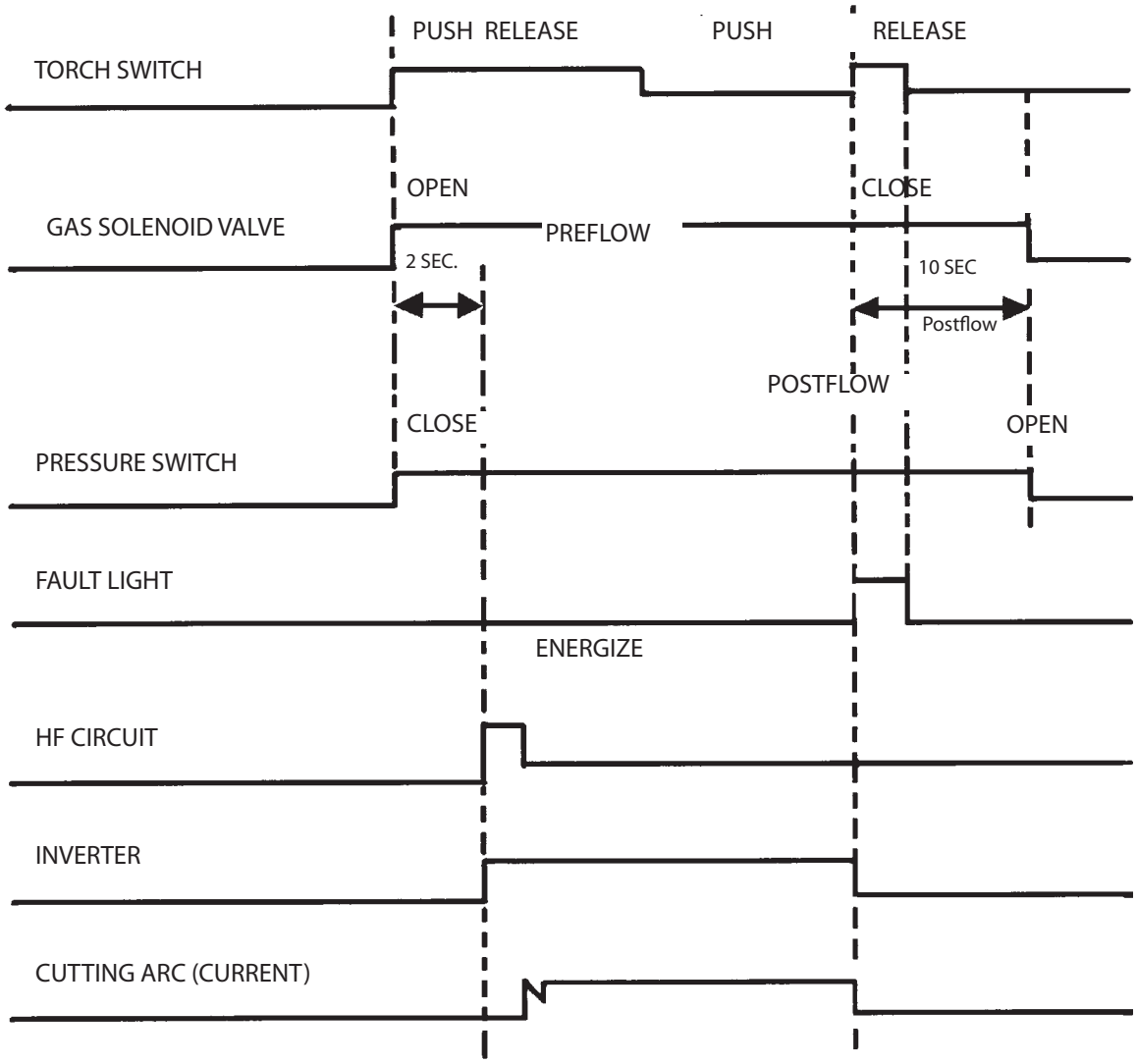


NOTES:

1. When the torch switch is pushed during postflow period, the postflow and preflow times are canceled, and the HF is energized immediately.

2. When the amber fault light comes on, cutting operation should be stopped. The postflow time starts from the moment the torch switch is released.

B. TRIGGER LOCK "LOCK" position



NOTES:

1. When the torch switch is pushed during postflow period, the postflow and preflow times are canceled, and the HF is energized immediately.

2. When the red fault light comes on, cutting operation should be stopped. The postflow time starts from the moment the torch switch is released.

3. FAULT light is on during second "turn-off" trigger only. This does not affect performance in any way.

6.0 Replacement Parts

6.1 General

Always provide the serial number of the unit on which the parts will be used. The serial number is stamped on the unit nameplate.

6.2 Ordering

To ensure proper operation, it is recommended that only genuine ESAB parts and products be used with this equipment. The use of non-ESAB parts may void your warranty.

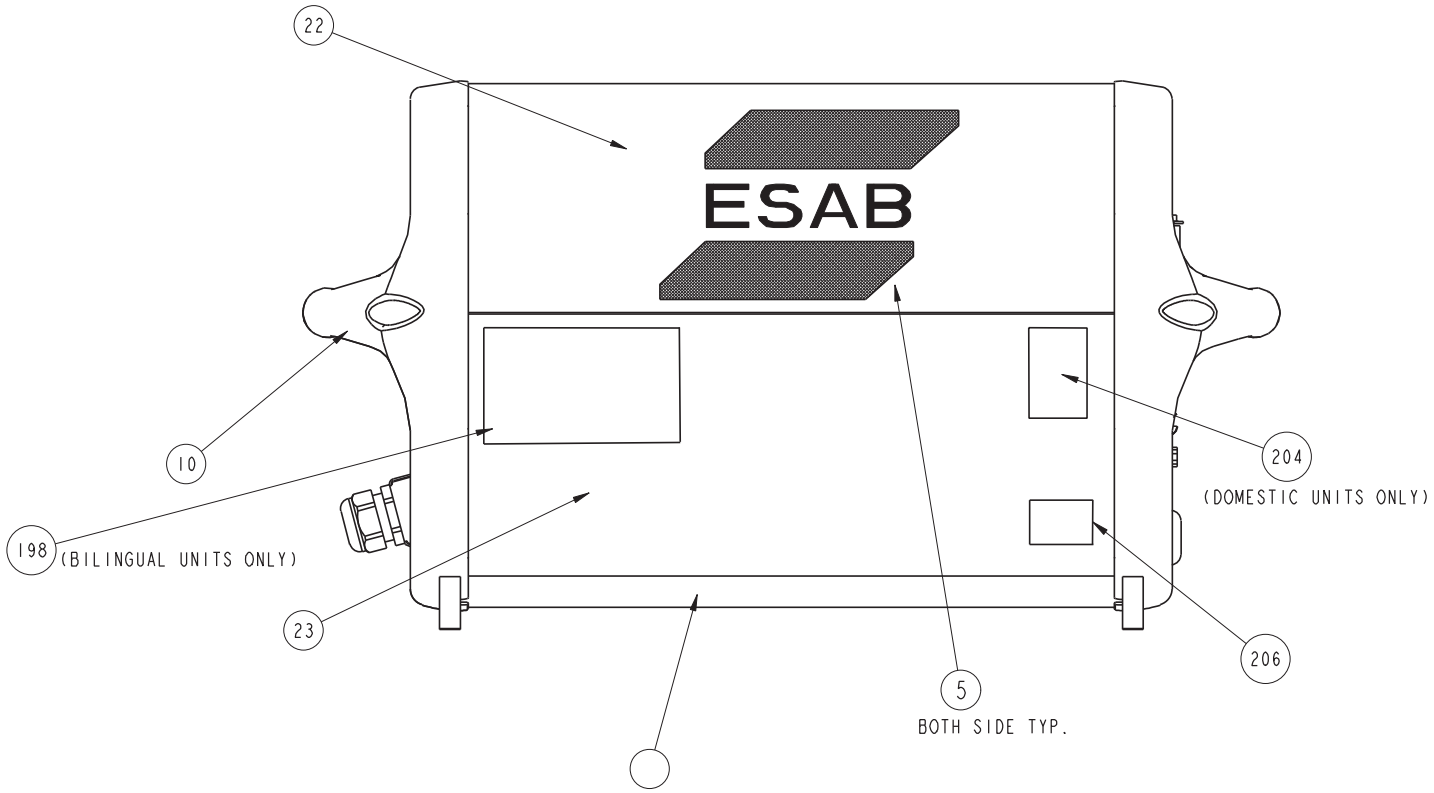
Replacement parts may be ordered from your ESAB Distributor.

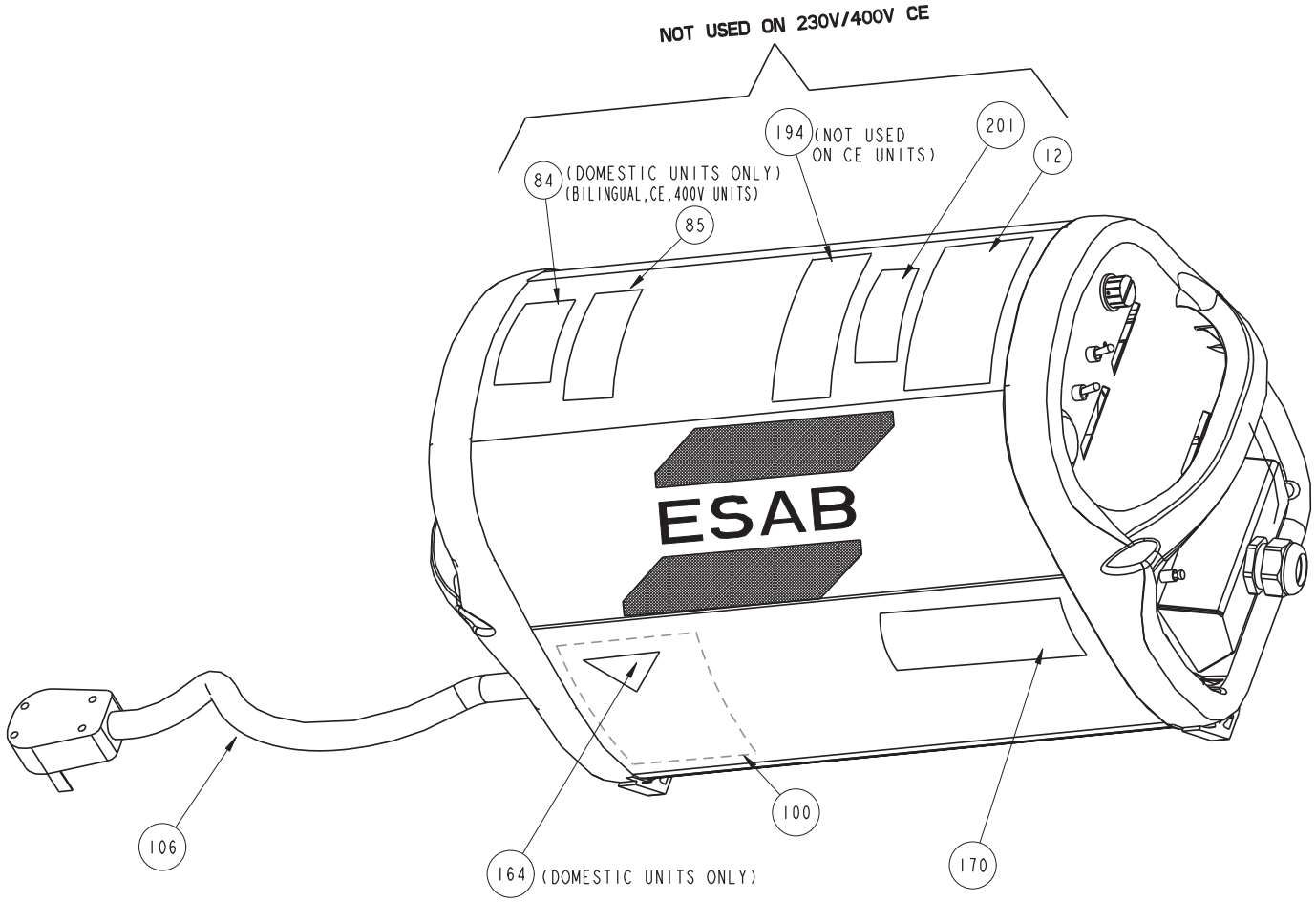
Be sure to indicate any special shipping instructions when ordering replacement parts.

Refer to the Communications Guide located on the back page of this manual for a list of customer service phone numbers.

Note

Bill of material items that have blank part numbers are provided for customer information only. Hardware items should be available through local sources.


22
ESAB
10
198
(BILINGUAL UNITS ONLY)
23
204
(DOMESTIC UNITS ONLY)
206
5
BOTH SIDE TYP.


NOT USED ON 230V/400V CE
194
(NOT USED
ON CE UNITS)
201
12
84
(DOMESTIC UNITS ONLY)
(BILINGUAL,CE,400V UNITS)
85
ESAB
106
164
(DOMESTIC UNITS ONLY)
100
170


S2
56
70
PL1
71
PL2
92
S3
70
57
R1
3
38
1
18
15
153
193
86
195
POWERCUT 875
TORCH
188
BOTH ENDS
48
130
115
192
146
99
115
76
75
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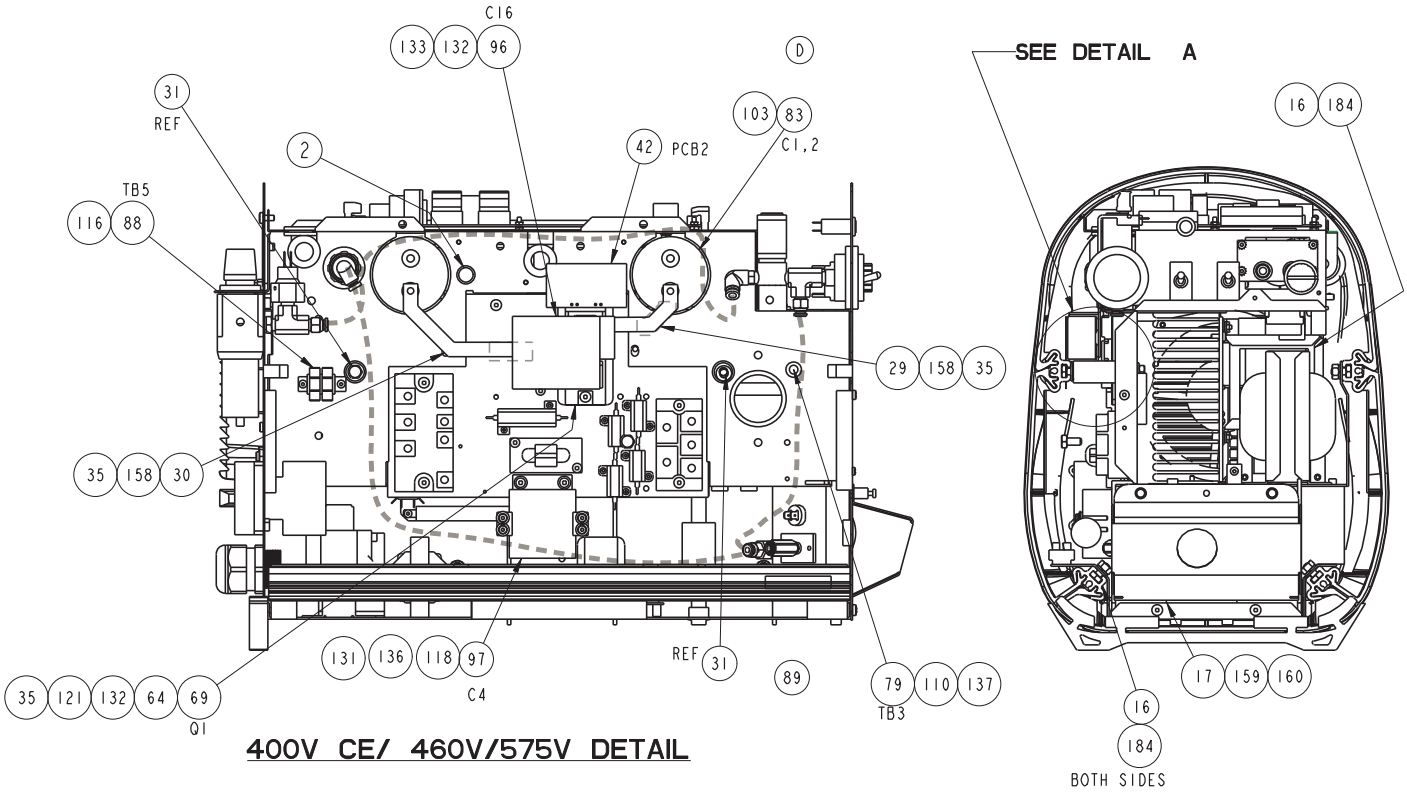
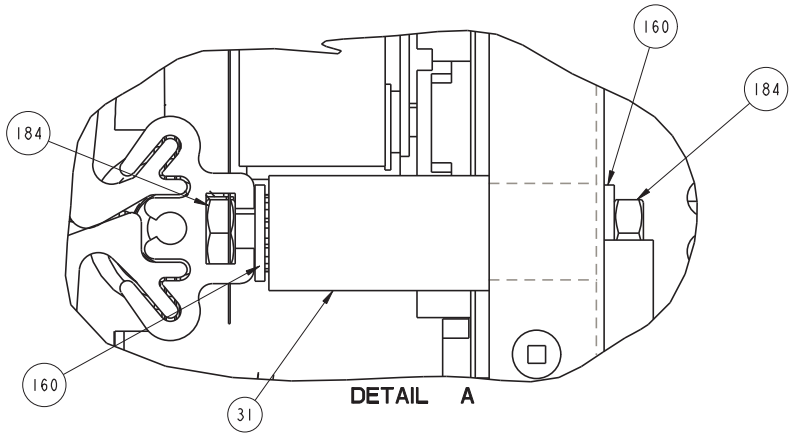
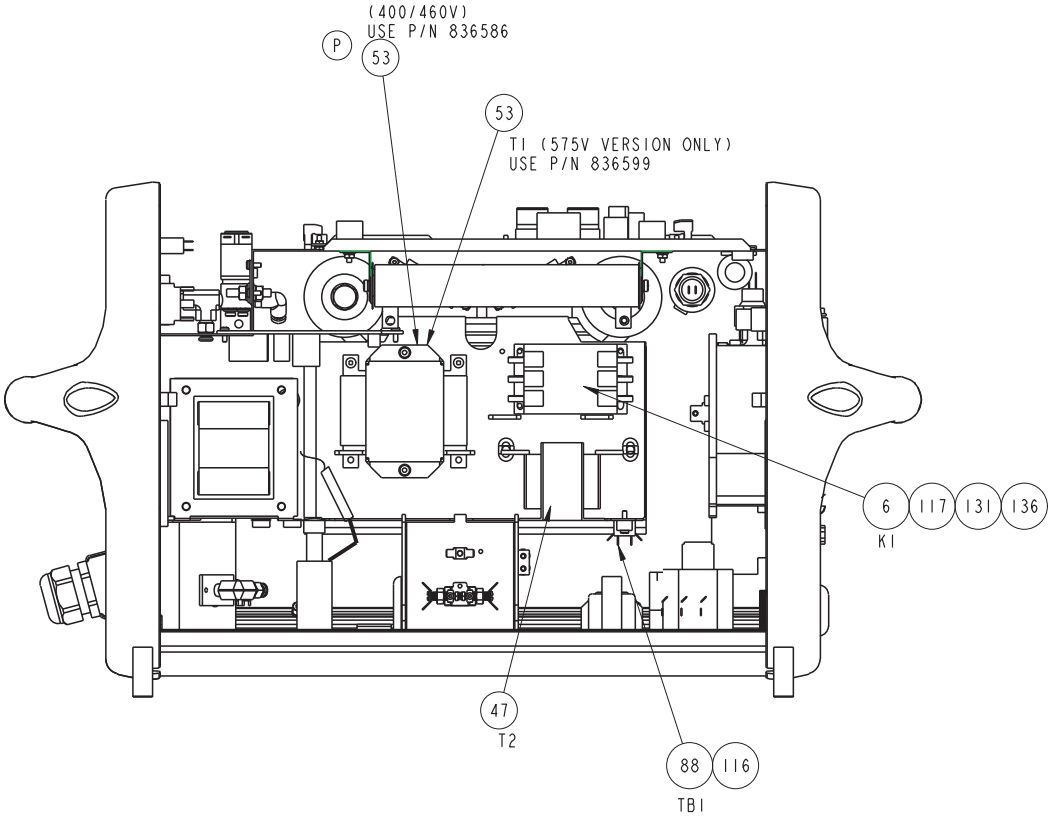
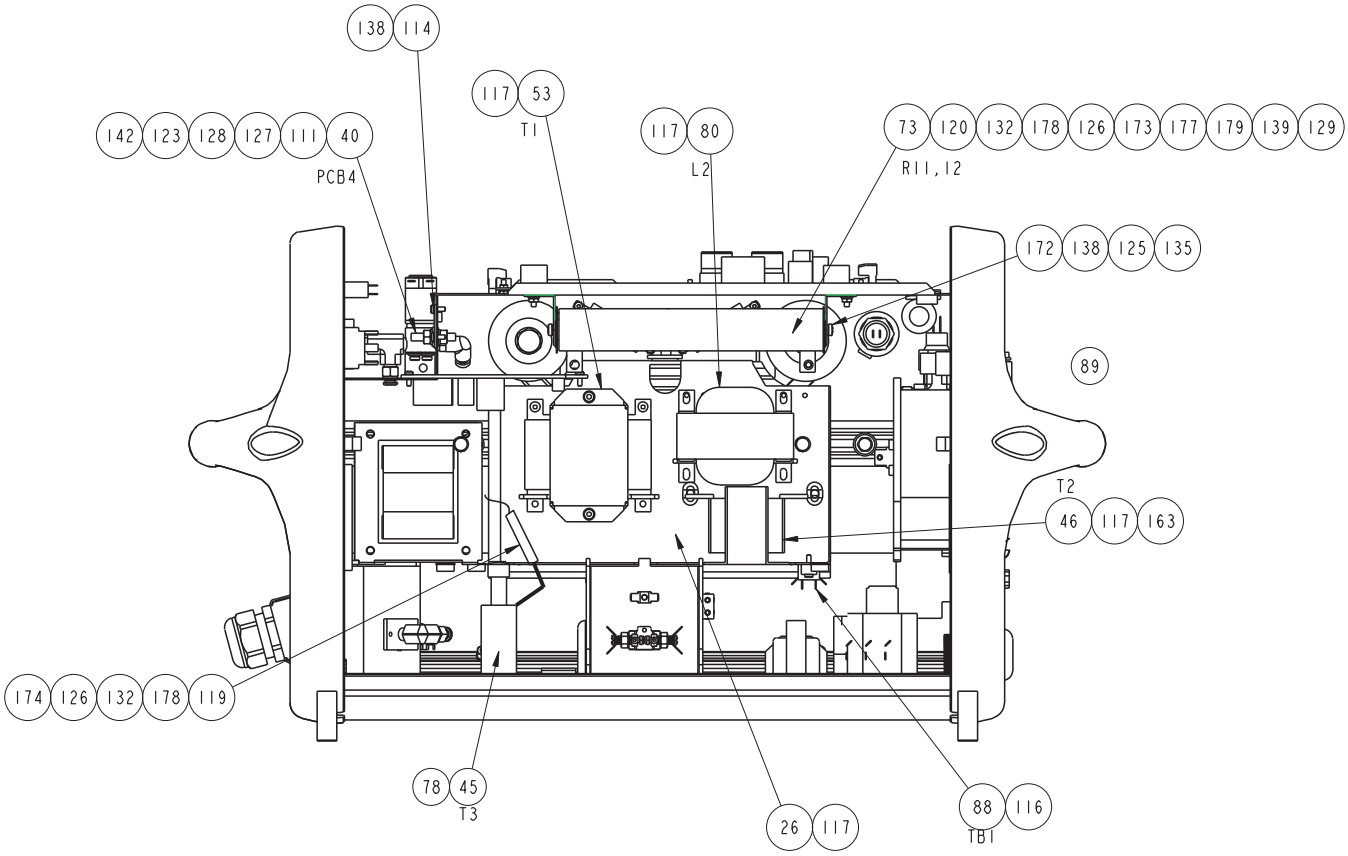


400V CE/ 460V/575V DETAIL

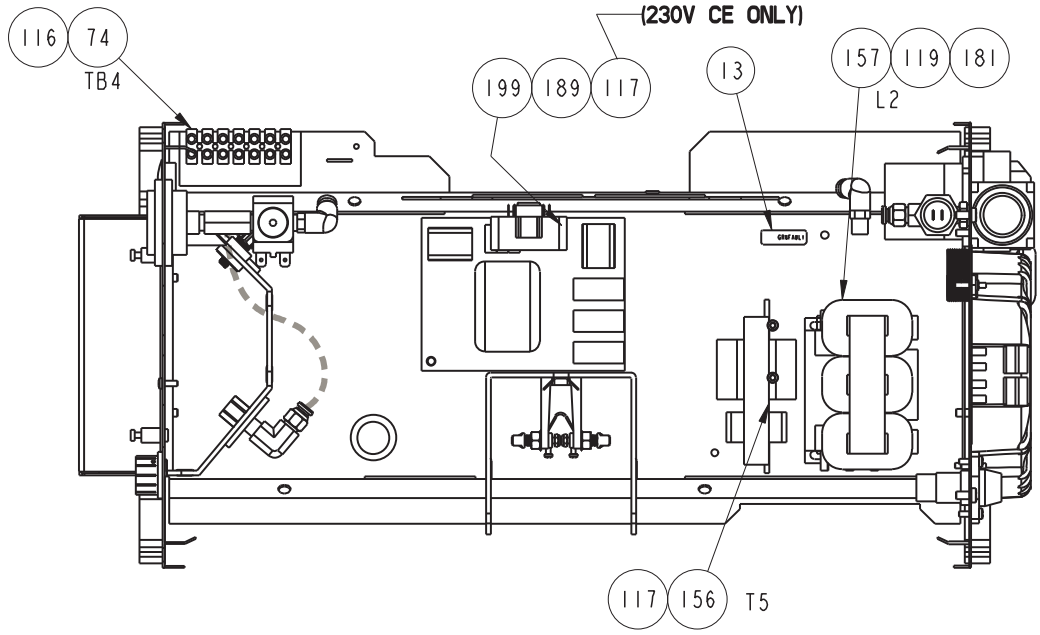




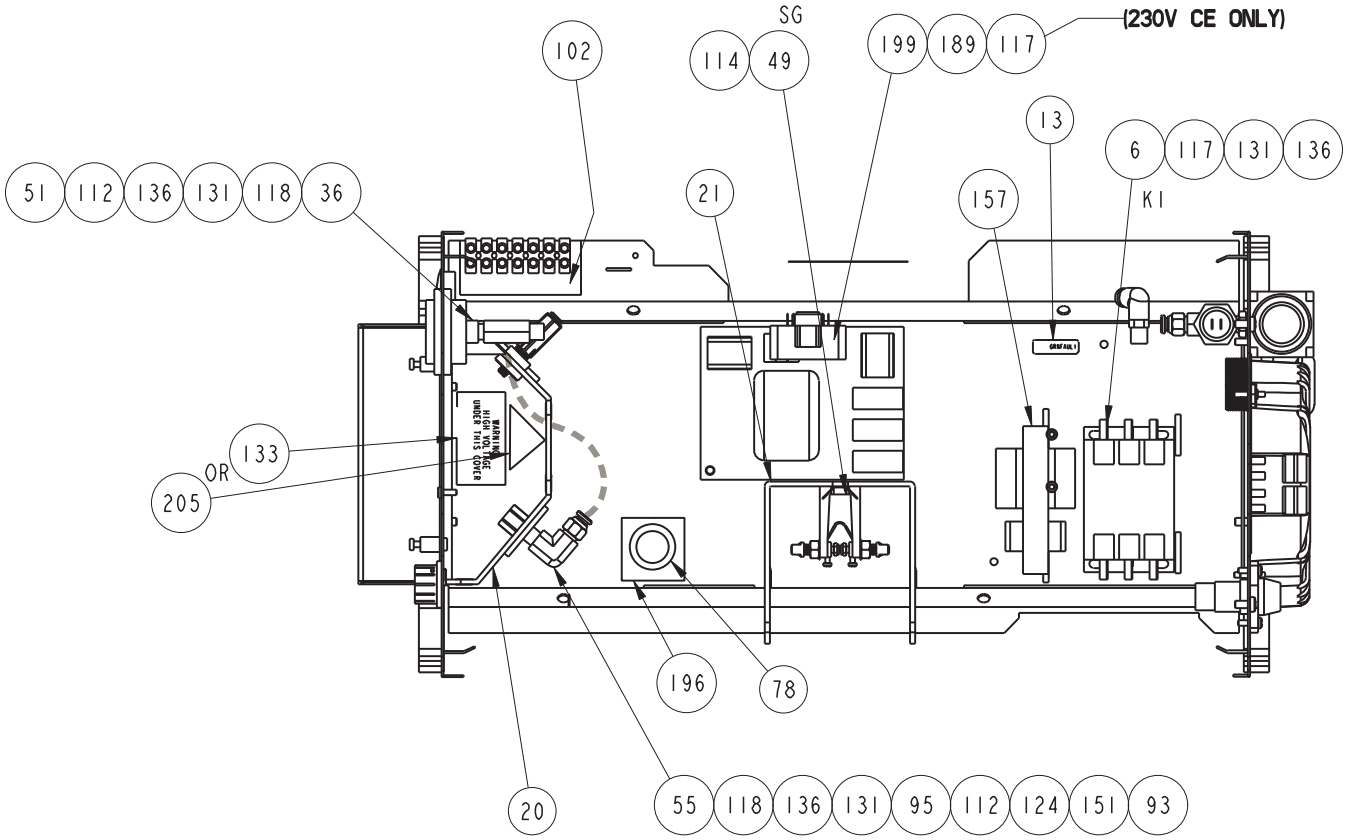
400V CE/460V/575V DETAIL



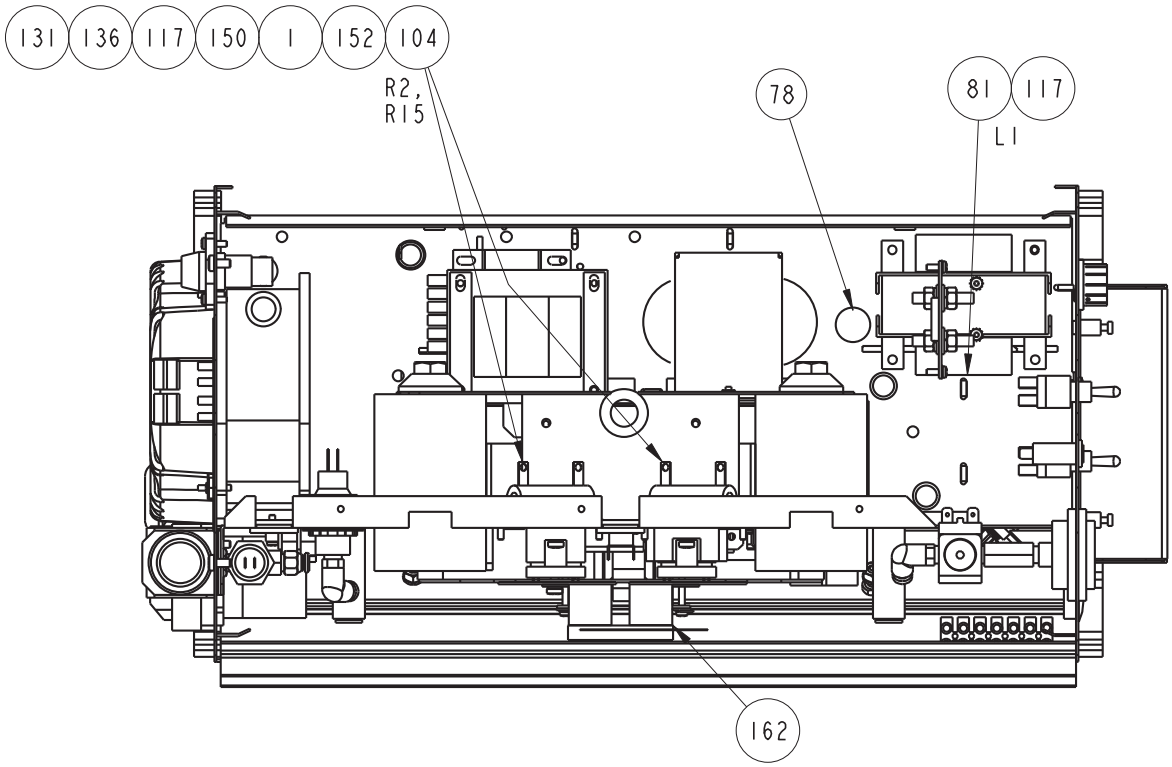
208/230V/230V CE DETAIL



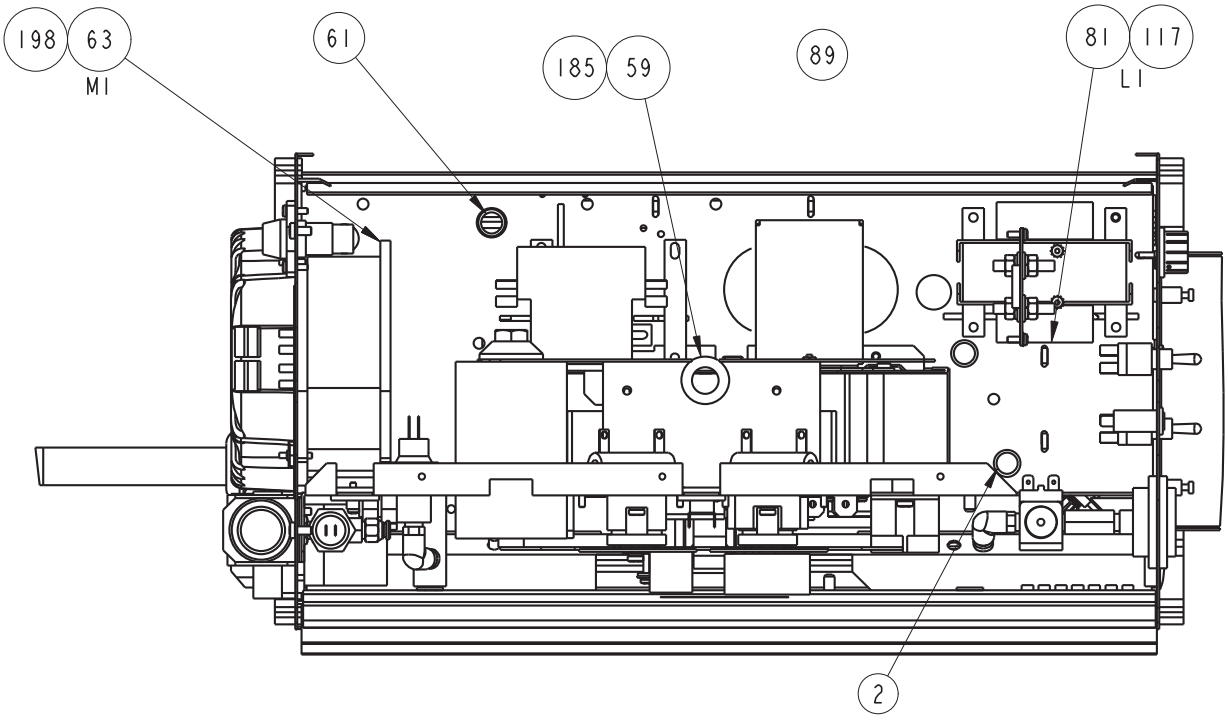
400V CE/460V/575V DETAIL @ BOTTOM VIEW



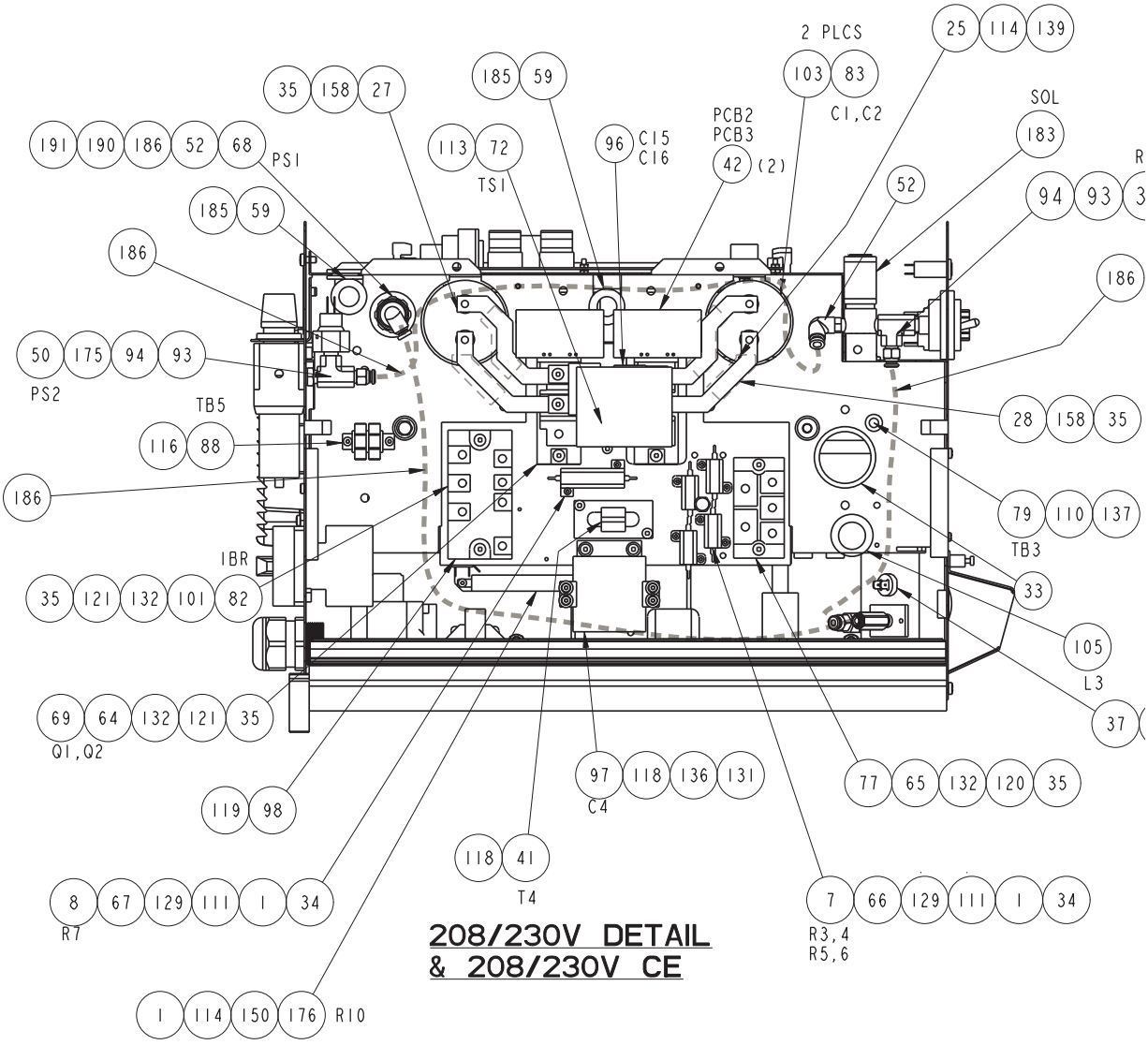
208/230V/230V CE DETAIL @ BOTTOM VIEW

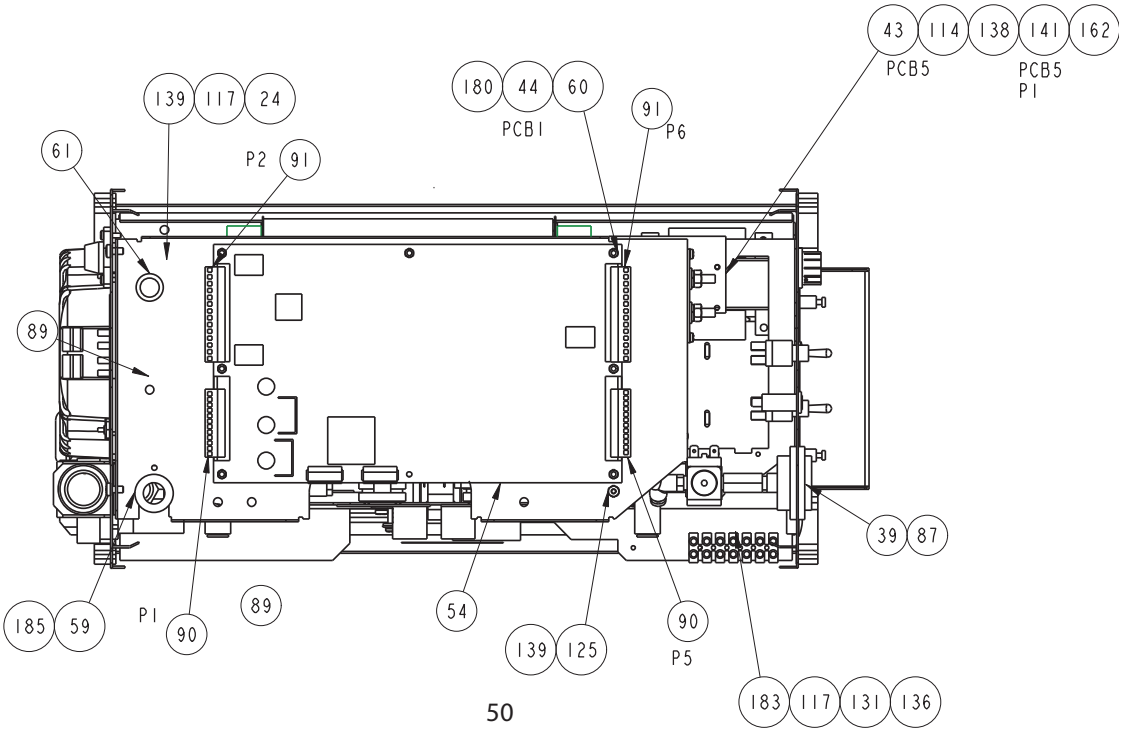


208/230V/230V CE DETAIL @ TOP VIEW



400V CE/460V/575V DETAIL @ TOP VIEW


2 PLCS
25 114 139
103 83
C1,C2
SOL
183
35 158 27
185 59
PCB2
PCB3
42 (2)
96 C15 C16
113 72
TS1
191 190 186 52 68
PS1
52
94 93
185 59
186
186
50 175 94 93
PS2
TB5
116 88
28 158 35
186
79 110 137
TB3
IBR
35 121 132 101 82
33
105
L3
37
69 64 132 121 35
Q1,Q2
97 118 136 131
C4
77 65 132 120 35
119 98
118 41
T4
8 67 129 111 1 34
R7
7 66 129 111 1 34
R3,4
R5,6
208/230V DETAIL
& 208/230V CE
1 114 150 176 R10


43 114 138 141 162
PCB5
PCB5
P1
180 44 60
PCB1
91
P6
139 117 24
61
P2 91
89
39 87
185 59
P1
90
89
54
139 125
90
P5
183 117 131 136

ITEM NO.	PART OR CODE NO.	SYMBOL (ELEC-AY	DESCRIPTION
1	10981006		SOLDER SN60 0.062 DIA. WRAP-3
2	13730222		BUSHING SNAP .56
3	0558001388		KNOB 1.17 DIA. 1/4 SHAFT
4	13730763		SERIAL CODE PLATE
5	13734588		LABEL ESAB
6	8673458	K1	CONTACTOR 3 POLE 110VAC 40A
7	17721020	R3,4,5,6	RES WWFAHT 25W 1% 20 OHMS NI
8	17750010	R7	RES WW 50W 3% 10 OHM
9	180W68		TYWRAP SMALL
10	0558001916		PLASMA TUBE END COVER
11	0558001919		PLASMA TUBE BOTTOM COVER 20"
12	2091514		LABEL WARNING
13	2091558		LABEL GROUND BLACK .05 X 1.38
14	0558000675		FILTER REG AIR LINE B07-234-AIKA
15	23606172		STRAIN RELIEF BUSHING
16	0558001931		PLASMA TUBE EXTRUDED BAR 20"
17	0558002173B		BASE PC 875/1125
	0558002798B		BASE PC 875/1125 CE
18	0558002171M		PANEL FRONT PC 875
	0558004950M		PANEL FRONT PC 875 CE
19	0558002172M		PANEL REAR PC 875/1125
	0558004951M		PANEL REAR PC 875/1125 CE
20	0558002182		BRACKET OUTPUT KYDEX
21	0558002183		BRACKET HIFREQ BOX KYDEX
22	0558001923		PLASMA TUBE TOP COVER 20"
23	0558001927		PLASMA TUBE SIDE COVER 20"
24	0558002176B		BRKT SHELF PCB MTG
25	0558002174B		BRKT SHELF HEAT SINK BKT
26	0558002175B		BRKT XFMR MTG
27	36730		BUSBAR POS 208/230
28	36731		BUSBAR NEG 208/230
29	36732		BUSBAR POS 400-575
30	36733		BUSBAR NEG 400-575
31	0558002178		SPACER ALUM .625 RD X 2 LG
32	60101025		PLUG HOLE HEX SKT HEAD 1/8
33	673038		BUSHING SNAP 1.38 ID X 1.75 MH
34	71200732		ADH SILICON RUBBER
35	73585980		CMPD ELECT JNT EJC 2

ITEM NO.	PART OR CODE NO.	SYMBOL (ELEC-AY	DESCRIPTION
36	0558002186		BULKHEAD ADAPT PILOT ARC
37	13730583		TERM BUSHING .687"
38	0558001176	R1	POT 10, 3W
39	21711		GAUGE 1.50 160 PSI WHT CBM STL
40	31488	PCB4	P/C BRD AY SHUNT BRD
41	32958	T4	XFMR ASSY CURRENT
42	0558001177	PCB2,3	PCB ASSY MOSFET/IGBT DRVR BRD
	0558001178	PCB2	PCB ASSY IGBT DRIVER BRD
43	38131	PCB5	PC BOARD START UP
44	38214	PCB1	PCB UNIVERSAL PLASMA CONTROL
45	32969	T3	REACTOR ASSY HIGH FREQ
46	35940	T2	XFMR ASSY CONTROL 208/230V
47	32914	T2	XFMR ASSY CONTROL 400/460/575V
48	0558003307M		TORCH COMP COVER PC650/875
	0558005498M		TORCH COMP COVER PC650/875 CE
49	0558001180	SG	SPARK GAP ASSY
50	0558003105	PS2	PRESSURE SWITCH HIGH
51	0558006321		CONN 1/4 FEMALE 1/8NPT QUICK
52	952087		ELBOW MALE SWIVEL 90 DEG 1/8
53	36586	T1	XFMR ASSY MAIN 230/460V
	36599	T1	XFMR ASSY MAIN 600V
54	0558003068		INSULATOR, PCB, CONTROL
55	647134		B.HEAD A SIZE TORCH
56	634518	S2	SW TGGL DPDT 2 POS 15A 125V
57	673213	S3	SWITCH TOGGLE
58	64307996		WSR 52010 STLZPC .250
59	92W57		GROMMET RUBBER
60	0558002630		SPACER NYLON #6SCREW X .125LG
61	8950823		BUSHING SNAP
62	0558002188	S1	SWITCH POWER 600V/70A
63	951182	M1	FAN AC AXIAL
64	951190		PAD THERMAL IGBT 600V
	951191		PAD THERMAL IGBT 1200V
65	951192		PAD THERMAL BRIDGE
66	951193		PAD THERMAL POWER RESISTOR 25W
67	951194		PAD THERMAL POWER RESISTOR 50W
68	0558002189	PS1	SWITCH PRESSURE .25 GPN SPST
69	0558005445	Q1,2	IGBT 600V 100A SEMIKRON
	0558005462	Q1	MODULE DUAL IGBT 150A 1200V SK
70	951474		SWITCH SEAL BLACK

ITEM NO.	PART OR CODE NO.	SYMBOL (ELEC-AY	DESCRIPTION
71	951526	PL1	LAMP NEON WHT
72	950711	TS1	SWITCH THERMAL 194 DEG
73	17300012	R11,12	RESISTOR 300W 12 OHM
74	952026	TB4	TERM BLOCK 7 POS 25A 12-18 AWG
75	952136		FUSE HOLDER
76	952559	F1	FUSE 3A FAST ACTING
77	952150	D1	BRIDGE 60ADC 100NS 600V
78	952207		HOLE PLUG NYLON
79	952208	TB3	STANDOFF INSULATING NYLON
80	952232	L2	INDUCTOR PFC
81	952233	L1	INDUCTOR OUTPUT
82	952235	IBR	MODULE INPUT BRIDGE/SCR
83	952237	C1,2	CAPACITOR 1800UF 450 VDC W/NUT
	952562	C1,2	CAPACITOR 1800UF 500 VDC W/NUT
84	954008		LABEL WARNING HIGH VOLTAGE
	954994		LABEL WARNING HIGH VOLTAGE BILINGUAL
85	954707		LABEL WARNING
86	0558002581		STRAIN RELIEF INPUT NPT1
87	993426		GROMMET RUB 1.50 ID 1.75 GD X .06
88	950487	TB1,5	TERM BLOCK 2 POS 20A
89	950908		CABLE TIE PUSH-MOUNT
90	951339	PCB1-P1,5	PLUG FEMALE 12 POS
91	951340	PCB1-P2,6	PLUG FEMALE 14 POS
92	951754	PL2	LAMP LED YELLOW 12V
93	952083		CONNECTOR MALE 1/8NPTM
94	22432		TEE STREET 1/8 NPT
95	0558006261		ELBOW UNION 90DEG 1/8NPT
96	951964	C16	CAPACITOR 2uf 800VDC
	951892	C16	CAPACITOR 68uf 1200VDC
	951940	C15,16	CAPACITOR 1uf 630WVDC
97	952255	C4	CAPACITOR 40uf 400VDC
	952585	C4	CAPACITOR 20uf 600VDC
98	952558		HEATSINK 875
99	954937		LABEL RATING PC-875 208/230
	954936		LABEL RATING PC-875 400/460
	954964		LABEL RATING PC-875 575
	955290		LABEL RATING PC-875 400V
	955291		LABEL RATING PC-875 230V CE
100	954700		LABEL 200VAC INPUT PCM-875

ITEM NO.	PART OR CODE NO.	SYMBOL (ELEC-AY	DESCRIPTION
101	952280		PAD THERMAL INPUT BRIDGE
102	954673		LABEL CNC INTERFACE
103	994674		GROMMET STRIP
104	17240310	R2,15	RESISTOR 10K 25W
105	951198	L3	CORE SATURABLE
106	837573		CABLE INPUT POWER 6FT
	837574		CABLE INPUT POWER 10FT
	0558001181		CABLE INPUT PWR 10' 208/230/400V
	.0558002799		CABLE INPUT PWR 10' CE
107	950904		TERM 1L/M .250 TSX 18-22AWG
108	950906		TERM.250 22-18 AWG
109	950907		TERM 1L/F .250 TSX 14-16AWG
133	995204		LABEL WARNING ELECTRICAL SHOCK
141	951009	PCB5-P1	RCPT P/C 6 POS 10A
142	37710		CABLE WK/GRND
143	90250101		TAP ELEC GL-CLOTH 7.5M X .75
144	90860018		SLVG FBR-GL CTD 6/C #18 AWG
145	90862530		TUBING INSUL 1/8 ID
146	65609503		RIVET POP .125 X .275
147	182W37		TERMINAL END CAP
148	634736		CAP SPLICE
149	634220		TAB
150	99512068		BRKT MTG #9 RESISTOR
151	9910003		SEALANT PIPE SS PST
152	90858003		TUBING PLAS .250ODX.04W BLK
153	23610197		HOLE PLUG Ø.875 MTG HOLE
158	90862175		TUBING HEATSHRINK .75 ID
161	631507		TYWRAP MEDIUM
162	.4600910		NOMEX 10 MIL X 2.5W
163	90861726		TUBING INSUL .38 ID
164	954506		LABEL ISO 9001
165	60909075		CLOS PE CAPLUG #4
168	954716		LABEL 208/230 VOLT UNIT
	954717		LABEL 460 VOLT UNIT
	954965		LABEL 575 VOLT UNIT

ITEM NO.	PART OR CODE NO.	SYMBOL (ELEC-AY	DESCRIPTION
169	954425		LABEL LR-30071 CSA NRTL/C
170	954746		LABEL FAULT INDICATOR
171	23609931		TUBING .375"
172	37753BK		BRKT RES DUAL
173	46N08		ROD MTG RESISTOR
174	2132496		TUBING PVC .0625 ID
175	0558006271		BUSHING,1/8NPTF-1/4 NPTM
176	17250010	R10	RESISTOR WW FIXED 50W 10 OHM
177	6476182		WSH FLAT 1.25 X .63 X .03 MICA
178	64304050		WSR FLAT #10
179	91W19		WSR CENT 1.00 X .63 X .25 STL
180	2134208		NUT NYLON HEX NUT 6-32
181	2132496		TUBING PVC .6251D X **W BLK
182	4600110		NOMEX 10 MIL X 4.00 W X 4.5 LG
183	0558006156	SOL	VALVE SOL 1/8NPT 24V 60HZ
184	6134087		SCR 12029 STLZPC .250-20X.50LG
185	71200434		ADH LOCTITE Q-SET 49550
186	90858003		TUBING PLAS .2500DX.040W BLK
187			
188	61325090		SCR 24006 STLZPC 0.250-20 X 1.00
189	64303164		WSR 52006 STLZPC 0.164
190	0558002628		NUT RETAINER PRESSURE SWITCH
191	0558002629		WSR 1.50D X .881D PRESS SWITCH
192	0558002780		FOOT PLASMA TUBE
193	954949		DECAL PC-875 6.25 X 1.75
	0558954001		DECAL PC-875 CE 6.25 X 1.75
194	954953		LABEL PT-32 TORCH BILINGUAL
195	950435		LOCKNUT CONDUIT 1 NPT
196	0558002929		INSULATOR NOMEX 2.5 X 2.5
197	0558005659		FINGER GUARD
198	0558954085		LABEL WARNING FR 7.0W x 5.06H
199	0455803880		EMC FILTER BOARD
200	954565		LABEL CE LOGO
201	955269		LABEL CAUTION READ MANUAL
202	08030354		HOSE ADAPT 1/4NPTM TO 1/4BARB
203	61325904		SCR #10-24 x 3/4 PAN QUADRX
204	0558954034		LABEL CUSTOMER ASSISTANCE
205	954509		LABEL SYMBOL CAUTION HIGH VOLTAGE
206	0558954060		LABEL PATENT PLASMA PWR SUPPLIES

REVISION HISTORY

1. "C" Revision - 10/2003 - Based on CN# 013326, apparently missed update when CN was released. Updates include various changes to the Replacement Parts section and wiring / schematic diagrams have been replaced.

2. "D" Revision - 03/2004 - Based on CN# 043028. Updated Schematic 0558002486 on Page 37 to Revision B.

3. "E" Revision - 05/2005 - Based on CN# 053013. Updated Replacement Parts section, figure 6-2, added regulator filter p/n 0558005394 note. Updated format.

4. Revision 08/2005 - Made various updates per D. Smith and in replacement parts section, ADDED finger guard p/n 0558005659 per CN-053103.

5. Revision 12/2005 - Updated all rear view pics & removed regulator filter p/n 0558005394 note per D. Smith.

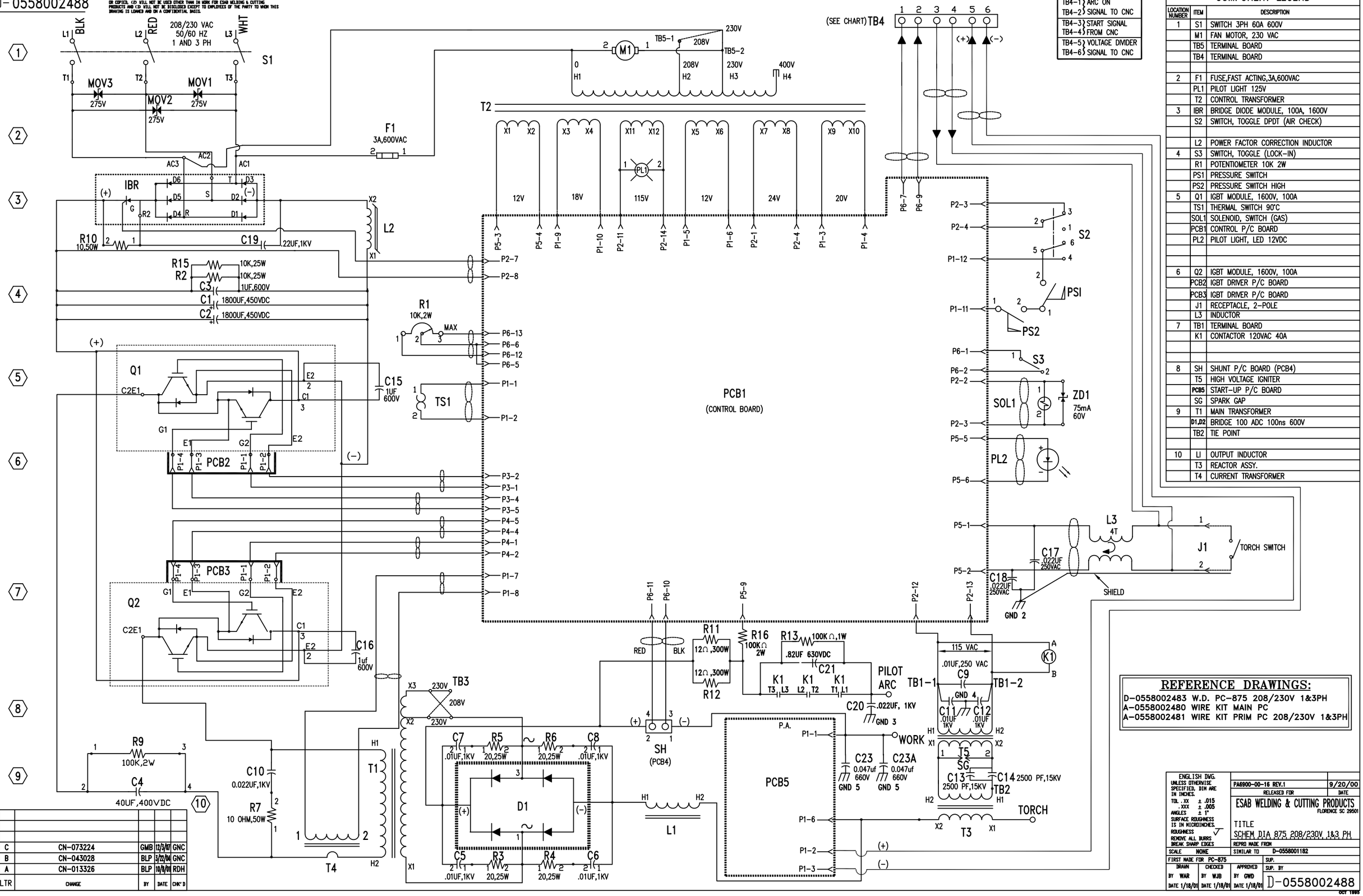
6. Revision 04 / 2006 - Updated entire Replacement Parts subsection per ECN #063058.

7. Revision 08/2007: Added **Fault Light Indicator Chart** to section 3.

8. Revision 12/2007 - Updated entire Replacement Parts subsection.

9. Revision 01 / 2008 - Updated Table 2-2, Powercut 875 Specifications in Subsection 2.4, Specifications.

D-0558002488



REFERENCE DRAWINGS:

D-0558002483 W.D. PC-875 208/230V 1&3PH
A-0558002480 WIRE KIT MAIN PC
A-0558002481 WIRE KIT PRIM PC 208/230V 1&3PH

COMPONENT LEGEND

LOCATION NUMBER	ITEM	DESCRIPTION
1	S1	SWITCH 3PH 60A 600V
	M1	FAN MOTOR, 230 VAC
	TB5	TERMINAL BOARD
	TB4	TERMINAL BOARD
2	F1	FUSE,FAST ACTING,3A,600VAC
	PL1	PILOT LIGHT 125V
	T2	CONTROL TRANSFORMER
3	IBR	BRIDGE DIODE MODULE, 100A, 1600V
	S2	SWITCH, TOGGLE DPDT (AIR CHECK)
	L2	POWER FACTOR CORRECTION INDUCTOR
4	S3	SWITCH, TOGGLE (LOCK-IN)
	R1	POTENTIOMETER 10K 2W
	PS1	PRESSURE SWITCH
	PS2	PRESSURE SWITCH HIGH
5	Q1	IGBT MODULE, 1600V, 100A
	TS1	THERMAL SWITCH 90°C
	SOL1	SOLENOID, SWITCH (GAS)
	PCB1	CONTROL P/C BOARD
	PL2	PILOT LIGHT, LED 12VDC
6	Q2	IGBT MODULE, 1600V, 100A
	PCB2	IGBT DRIVER P/C BOARD
	PCB3	IGBT DRIVER P/C BOARD
	J1	RECEPTACLE, 2-POLE
	L3	INDUCTOR
7	TB1	TERMINAL BOARD
	K1	CONTACTOR 120VAC 40A
8	SH	SHUNT P/C BOARD (PCB4)
	T5	HIGH VOLTAGE IGNITER
	PCB5	START-UP P/C BOARD
	SG	SPARK GAP
9	T1	MAIN TRANSFORMER
	D1,D2	BRIDGE 100 ADC 100ns 600V
	TB2	TIE POINT
10	LI	OUTPUT INDUCTOR
	T3	REACTOR ASSY.
	T4	CURRENT TRANSFORMER

M	LTR	CHANGE	BY	DATE	CHK'D
	C	CN-073224	GMB	12/3/07	GNC
	B	CN-043028	BLP	3/22/04	GNC
	A	CN-013326	BLP	10/8/01	RDH

ENGLISH DWG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL. .XX ± .015
.XXX ± .005
ANGLES ± 1°
SURFACE ROUGHNESS IS IN MICROINCHES.
ROUGHNESS
REMOVE ALL BURRS
BREAK SHARP EDGES

PA8900-00-16 REV.1 — 9/20/00
RELEASED FOR — DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE SC 29501

TITLE
SCHEM DIA 875 208/230V 1&3 PH

REPRO MADE FROM
SCALE NONE
SIMILAR TO D-0558001182
FIRST MADE FOR PC-875 SUP.

DRAWN	CHECKED	APPROVED	SUP. BY
BY WAR	BY WJB	BY GWD	D-0558002488
DATE 1/18/01	DATE 1/18/01	DATE 1/18/01	

OCT 1995

D-0558002486

COMPONENT LEGEND

LOCATION NUMBER	ITEM	DESCRIPTION
1	S1	SWITCH 60A 600V
	M1	FAN MOTOR
	L2	3% 3 PHASE LINE REACTOR
	TB4	TERMINAL BOARD
	TB5	TERMINAL BOARD
2	T2	CONTROL TRANSFORMER
	F1	FUSE, FAST-ACTING,3A,600VAC
	PL1	PILOT LIGHT 125V
3	IBR	BRIDGE DIODE MODULE,3PH,75A,1600V
	S2	SWITCH,TOGGLE,DPDT (AIR CHECK)
4	S3	SWITCH, TOGGLE (LOCK-IN)
	R1	POTENTIOMETER 10K 2W
	PS1	PRESSURE SWITCH
	PS2	PRESSURE SWITCH HIGH
5	SOL1	SOLENOID, SWITCH (GAS)
	TS1	THERMAL SWITCH 90°C
	PCB1	CONTROL P/C BOARD
	PL2	PILOT LIGHT LED 12V
6	Q1	IGBT MODULE, 1200V,200A
	PCB2	IGBT DRIVER P/C BOARD
	L3	INDUCTOR
	J1	RECEPTACLE, 2-POLE
7	TB1	TERMINAL BOARD
	TB3	TIE POINT
	K1	CONTACTOR 40A 120VAC
8	SH	SHUNT P/C BOARD (PCB4)
	T5	HIGH VOLTAGE IGNITER
	PCB5	START-UP P/C BOARD
9	T1	MAIN TRANSFORMER
	D1,D2	DIODE MOD. 100ADC,100NS,600V
	TB2	TIE POINT
10	LI	INDUCTOR
	T3	REACTOR ASSY.
	T4	CURRENT TRANSFORMER

TB4-1) ARC ON
TB4-2) SIGNAL TO CNC
TB4-3) START SIGNAL FROM CNC
TB4-4)
TB4-5) VOLTAGE DIVIDER
TB4-6) SIGNAL TO CNC

(SEE CHART) TB4

400/460 VAC
50/60 HZ
3 PH

T2 H1 0 2 M1 1 H2 230V H3 400V H4 460V H5 575V
TB5-1 TB5-2

X1 X2 24V
X3 X4 18V
X11 X12 115V (PL1)
X5 X6 12V
X7 X8 18V
X9 X10 12V

F1 3A,600VAC

MOV 3 510V
MOV 1 510V
MOV 2 510V

R10 10,50W
C19 0.22UF,1KV
IBR

R15 10K,20W C15 1 UF 630VDC C2 1800uf 450VDC
R2 10K,20W C3 1 UF 630VDC C1 1800uf 450VDC
(+) (-)

R1 10K,2W MAX
TS1

PCB1
(CONTROL BOARD)

PCB2
C2E1 G2 E2 E1 G1 C1 Q1
C16 2 UF 800VDC

R9 100K,2W
C4 40UF,400VDC
C10 0.022UF 1KV
R7 10 OHM,50W
T1 T4

TB3 460V
C7 .01UF,1KV
R5 20,25W
R6 20,25W
C8 .01UF,1KV
D1
C5 .01UF,1KV
R3 20,25W
R4 20,25W
C6 .01UF,1KV
L1

SH (PCB4)
RED BLK
R11 12Ω,300W
R12 12Ω,300W
R16 100KΩ 2W
R13 100KΩ,1W
C21 .82UF 630VDC
K1 L3 K1 L2 K1 T1 K1 L1
PILOT ARC
C20 .022UF, 1KV GND 3

PCB5
P.A.
P1-1 WORK
C23 0.047uf 660V GND 5
C23A 0.047uf 660V GND 5
P1-6
P1-2 (+)
P1-3 (-)

S2 S3 PSI PS2
SOL1 ZD1 75mA 60V
PL2
L3 4T
J1 TORCH SWITCH
C17 .022UF 250VAC
C18 022UF 250VAC
SHIELD
GND 2

115 VAC
.01UF,250 VAC
C9
TB1-1 TB1-2
GND 4
C11 .01UF 1KV
C12 .01UF 1KV
T5 SG
C13 2500 PF,15KV
C14 2500 PF,15KV
TB2
TORCH
T3

P2-1 P2-4 P1-3 P1-4 P2-11 P2-14 P1-5 P1-6 P1-9 P1-10 P5-3 P5-4 P6-7 P6-9
P2-7 P2-8 P6-13 P6-6 P6-12 P6-5 P1-1 P1-2 P3-1 P3-2 P4-1 P4-2 P1-7 P1-8
P6-11 P6-10 P5-9 P2-12 P2-13
P2-3 P2-4 P1-12 P1-11 P6-1 P6-2 P2-2 P2-3 P5-5 P5-6 P5-1 P5-2

C	CN-073224	GMB	11/14/00	JBM
B	CN-043028	BLP	3/24/00	GNC
A	CN-013326	BLP	10/8/01	RDH
M LTR	CHANGE	BY	DATE	CHK'D

REFERENCE DRAWINGS:

D-0558002487 WIRING DIAGRAM PC 400/460V 3PH

ENGLISH DWG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL. .XX ± .015
.XXX ± .005
ANGLES ± 1°
SURFACE ROUGHNESS IS IN MICROINCHES.
ROUGHNESS √
REMOVE ALL BURRS BREAK SHARP EDGES

PA6900-00-16 REV. 1 — RELEASED FOR — 9/20/00 DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE SC 29501

TITLE
SCHEMATIC PC 875 400/460V...

REPRO MADE FROM
SCALE NONE — SIMILAR TO D-37569/D-0558001183

FIRST MADE FOR PC-875 — SUP.

DRAWN	CHECKED	APPROVED	SUP. BY
BY WAR	BY WJB	BY GWD	D-0558002486
DATE 1/18/01	DATE 1/18/01	DATE 1/18/01	

OCT 1995

D-0558002954

COMPONENT LEGEND

LOCATION NUMBER	ITEM	DESCRIPTION
1	S1	SWITCH 70A 600V
	M1	FAN MOTOR
	L2	3% 3 PHASE LINE REACTOR
	TB4	TERMINAL BOARD
2	PL1	PILOT LIGHT 125V
	F1	FUSE, AC FAST ACTING,3A,600VAC
	T2	CONTROL TRANSFORMER
3	IBR	BRIDGE DIODE MODULE, 3PH, 75A, 1600V
	S2	SWITCH, TOGGLE DPDT (AIR CHECK)
4	S3	SWITCH, TOGGLE (LOCK-IN)
	R1	POTENTIOMETER 10K 2W
	PSI	PRESSURE SWITCH
	SW2	PRESSURE SWITCH HIGH
5	SOL1	SOLENOID, SWITCH (GAS)
	TS1	THERMAL SWITCH 90°C
	PCB1	CONTROL P/C BOARD
6	Q1	IGBT MODULE, 1400V,200A
	PCB2	IGBT DRIVER P/C BOARD
	PL2	PILOT LIGHT, LED 12V
	J1	RECEPTACLE, 2-POLE
	L3	INDUCTOR
7	K1	CONTACTOR 40A 120VAC
	TB1	TERMINAL BOARD
8	SH	SHUNT P/C BOARD (PCB4)
	T5	HIGH VOLTAGE IGNITER
	PCB5	START-UP P/C BOARD
9	T1	MAIN TRANSFORMER
	D1,D2	DIODE MOD. 100A,600V,100NS
	TB2	TIE POINT
10	LI	INDUCTOR
	T3	REACTOR ASSY.
	T4	CURRENT TRANSFORMER

TB4-1) ARC ON
TB4-2) SIGNAL TO CNC
TB4-3) START SIGNAL FROM CNC
TB4-4) SIGNAL TO CNC
TB4-5) VOLTAGE DIVIDER
TB4-6) SIGNAL TO CNC

(SEE CHART) TB4 1 2 3 4 5 6 (+) (-)

CH2 CH1 T1 L1 3 BLK
BH2 BH1 T2 L2 2 RED
AH2 AH1 T3 L3 1 WHT
L2 S1

MOV 3 625V, MOV 1 625V, MOV 2 625V

575 VAC 50/60 HZ 3 PH

F1 3A,600VAC

T2: H1 0, H2 230V, H3 400V, H4 460V, H5 575V
X1 X2 24V, X3 X4 18V, X11 X12 115V, X5 X6 12V, X7 X8 18V, X9 X10 12V

M1 2 1

PL1 1 2

R10 10,50W
IBR
C19 0.22UF,1KV

R15 10K,25W C15 1 UF 630VDC C2 1800uf 500VDC
R2 10K,25W C3 1 UF 630VDC C1 1800uf 500VDC
(+) (-)

R1 10K,2W MAX

TS1

PCB1 (CONTROL BOARD)

P2-1 P2-4 P1-3 P1-4 P2-11 P2-14 P1-5 P1-6 P1-9 P1-10 P5-3 P5-4 P6-7 P6-9
P2-7 P2-8
P6-13 P6-6 P6-12 P6-5
P1-1 P1-2
P3-4 P3-5 P4-4 P4-5 P1-7 P1-8
P6-11 P6-10 P5-9 P2-12 P2-13

P2-3 P2-4 P1-12 P1-11 P6-1 P6-2 P2-2 P2-3 P5-5 P5-6 P5-1 P5-2
S2 PSI PS2 S3 SOL1 ZD1 75mA 60V PL2

L3 4T
J1 TORCH SWITCH
C17 .022UF 250VAC
C18 .022UF 250VAC
SHIELD
GND 2

PCB2
C2E1 G2 E2 E2 E1 G1 C1 Q1
C16 .68 UF 1200VDC
(-) (+)

RED BLK
R11 12Ω,300W
R12 12Ω,300W
R16 100KΩ 2W
R13 330KΩ,1W .82UF 630VDC C21
K1 T3 L3 K1 L2 T2 K1 T1 L1
PILOT ARC
C20 .022UF, 1KV GND 3

115 VAC .01UF,250 VAC C9 GND 4
TB1-1 TB1-2
K1 A B
C11 .01UF 1KV C12 .01UF 1KV
T5 SG
C13 2500 PF,15KV C14 2500 PF,15KV
TB2
TORCH

R9 39K,2W
C4 20UF,600VDC
C10 0.022UF 1KV
R7 10 OHM,50W
T1 T4

SH (PCB4) (+) (-)
C7 .01UF,1KV R5 20,25W R6 20,25W C8 .01UF,1KV
D1
C5 .01UF,1KV R3 20,25W R4 20,25W C6 .01UF,1KV
L1

PCB5 P.A.
P1-1 WORK
C23 0.047uf 660V GND 5
P1-6 P1-2 P1-3 (+) (-)
T3

REFERENCE DRAWINGS:

D- 0558002953 WIRING PC1125 575V 3PH
A- 0558002480 WIRE KIT MAIN
A- 0558002957 KIT WIRE POWERCUT 875/1125 575V 3PH

M	LTR	CHANGE	BY	DATE	CHK'D
	A	CN-013326	BLP	10/8/01	RDH

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES. TOL .XX ± .015, .XXX ± .005, ANGLES ± 1° SURFACE ROUGHNESS IS IN MICRONINCHES. ROUGHNESS REMOVE ALL BURRS BREAK SHARP EDGES

PA-6900-01-18 6-14/01
RELEASED FOR DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE SC 29501

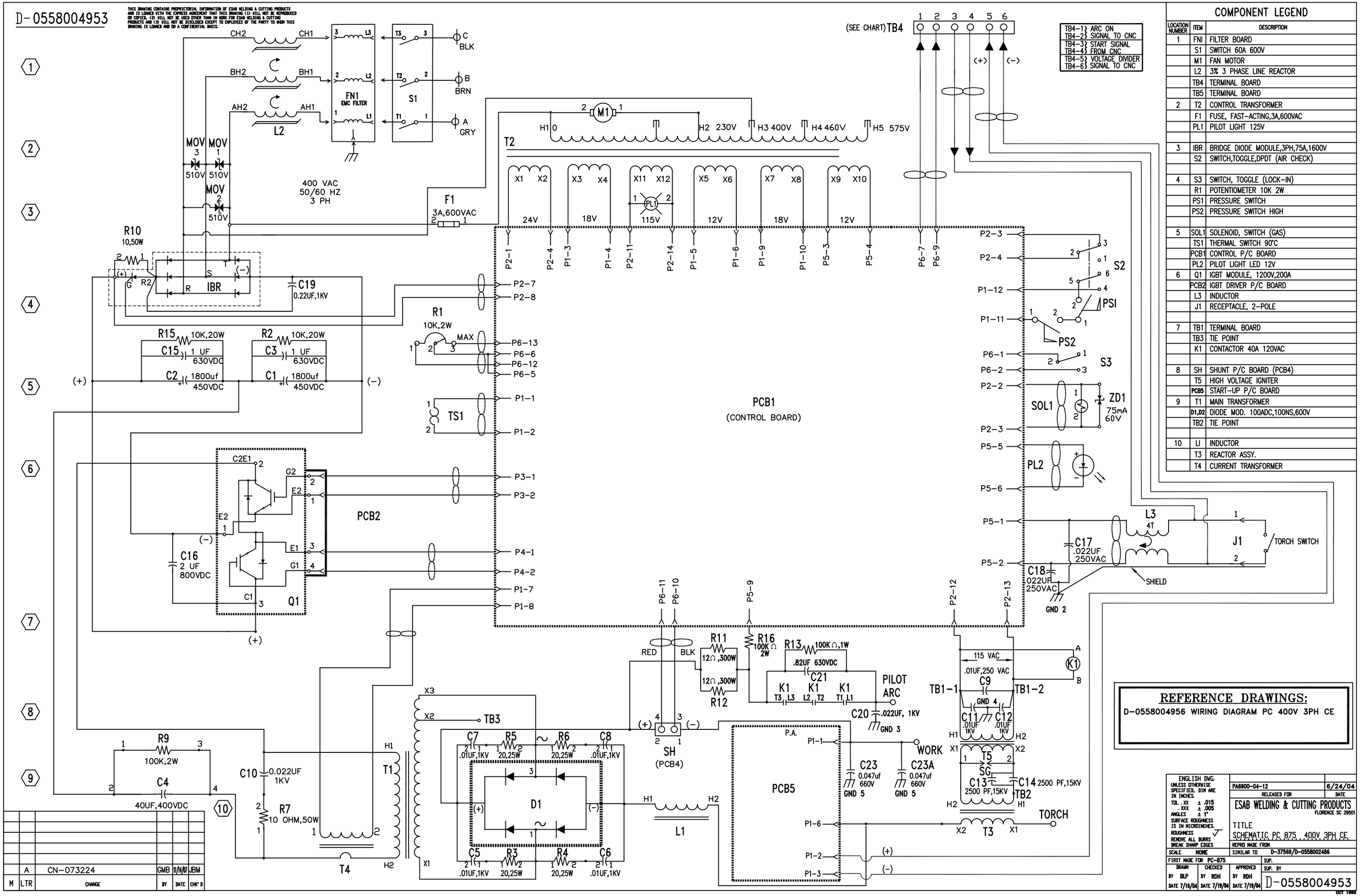
TITLE
SCHEMATIC PC 875 575V 3PH

REPRO MADE FROM
SCALE NONE SIMILAR TO
FIRST MADE FOR POWERCUT 875A SUP.
DRAWN BY TDG DATE 7/6/01 | CHECKED BY RDH DATE 7/6/01 | APPROVED BY GWD DATE 7/6/01 | SUP. BY

D-0558002954

OCT 1995

D-0558004953



COMPONENT LEGEND

LOCATION NUMBER	ITEM	DESCRIPTION
1	FN1	FILTER BOARD
	S1	SWITCH 60A 600V
	M1	FAN MOTOR
	L2	3% 3 PHASE LINE REACTOR
	TB4	TERMINAL BOARD
	TB5	TERMINAL BOARD
2	T2	CONTROL TRANSFORMER
	F1	FUSE, FAST-ACTING,3A,600VAC
	PL1	PILOT LIGHT 125V
3	IBR	BRIDGE DIODE MODULE,3PH,75A,1600V
	S2	SWITCH,TOGGLE,DPDT (AIR CHECK)
4	S3	SWITCH, TOGGLE (LOCK-IN)
	R1	POTENTIOMETER 10K 2W
	PS1	PRESSURE SWITCH
	PS2	PRESSURE SWITCH HIGH
5	SOL1	SOLENOID, SWITCH (GAS)
	TS1	THERMAL SWITCH 90°C
	PCB1	CONTROL P/C BOARD
	PL2	PILOT LIGHT LED 12V
6	Q1	IGBT MODULE, 1200V,200A
	PCB2	IGBT DRIVER P/C BOARD
	L3	INDUCTOR
	J1	RECEPTACLE, 2-POLE
7	TB1	TERMINAL BOARD
	TB3	TIE POINT
	K1	CONTACTOR 40A 120VAC
8	SH	SHUNT P/C BOARD (PCB4)
	T5	HIGH VOLTAGE IGNITER
	PCB5	START-UP P/C BOARD
9	T1	MAIN TRANSFORMER
	D1,D2	DIODE MOD. 100ADC,100NS,600V
	TB2	TIE POINT
10	LI	INDUCTOR
	T3	REACTOR ASSY.
	T4	CURRENT TRANSFORMER

REFERENCE DRAWINGS:

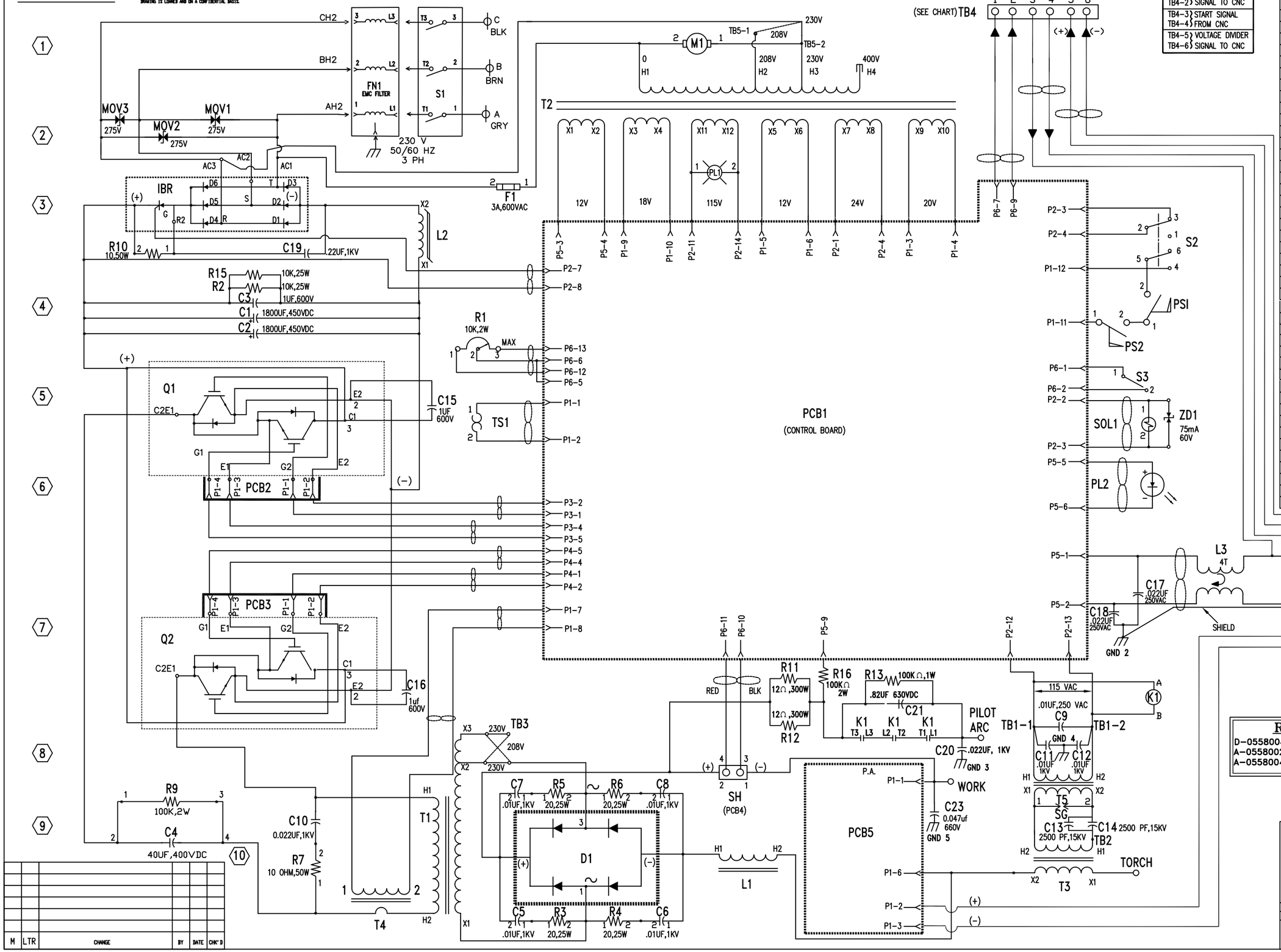
D-0558004956 WIRING DIAGRAM PC 400V 3PH CE

M	LTR	CHANGE	BY	DATE	CHK'D
	A	CN-073224	GMB	11/14/07	JBM

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES. TOL .XX ± .015 .XXX ± .005 ANGLES ± 1° SURFACE ROUGHNESS IS IN MICROINCHES. ROUGHNESS √ REMOVE ALL BURRS BREAK SHARP EDGES	PA8900-04-12 RELEASED FOR 6/24/04 DATE
	ESAB WELDING & CUTTING PRODUCTS FLORENCE SC 29501
	TITLE SCHEMATIC PC 875 , 400V 3PH CE
	REPRO MADE FROM
SCALE NONE	SIMILAR TO D-37569/D-0558002486
FIRST MADE FOR PC-875	SUP.
DRAWN BY BLP DATE 7/16/04	CHECKED BY RDH DATE 7/19/04
	APPROVED BY RDH DATE 7/19/04
	SUP. BY D-0558004953

OCT 1995

D-0558004954



COMPONENT LEGEND

LOCATION NUMBER	ITEM	DESCRIPTION
1	FN1	FILTER BOARD
	S1	SWITCH 3PH 60A 600V
	M1	FAN MOTOR, 230 VAC
	TB5	TERMINAL BOARD
	TB4	TERMINAL BOARD
2	F1	FUSE,FAST ACTING,3A,600VAC
	PL1	PILOT LIGHT 125V
	T2	CONTROL TRANSFORMER
3	IBR	BRIDGE DIODE MODULE, 100A, 1600V
	S2	SWITCH, TOGGLE DPDT (AIR CHECK)
	L2	POWER FACTOR CORRECTION INDUCTOR
4	S3	SWITCH, TOGGLE (LOCK-IN)
	R1	POTENTIOMETER 10K 2W
	PS1	PRESSURE SWITCH
	PS2	PRESSURE SWITCH HIGH
5	Q1	IGBT MODULE, 1600V, 100A
	TS1	THERMAL SWITCH 90°C
	SOL1	SOLENOID, SWITCH (GAS)
	PCB1	CONTROL P/C BOARD
	PL2	PILOT LIGHT, LED 12VDC
6	Q2	IGBT MODULE, 1600V, 100A
	PCB2	IGBT DRIVER P/C BOARD
	PCB3	IGBT DRIVER P/C BOARD
	J1	RECEPTACLE, 2-POLE
	L3	INDUCTOR
7	TB1	TERMINAL BOARD
	K1	CONTACTOR 120VAC 40A
8	SH	SHUNT P/C BOARD (PCB4)
	T5	HIGH VOLTAGE IGNITER
	PCB5	START-UP P/C BOARD
	SG	SPARK GAP
9	T1	MAIN TRANSFORMER
	D1,D2	BRIDGE 100 ADC 100ns 600V
	TB2	TIE POINT
10	LI	OUTPUT INDUCTOR
	T3	REACTOR ASSY.
	T4	CURRENT TRANSFORMER

REFERENCE DRAWINGS:

D-0558004955 W.D. PC-875 230V 3PH CE
A-0558002480 WIRE KIT MAIN PC
A-0558004962 WIRE KIT PRIM PC 230V 3PH CE

M	LTR	CHANGE	BY	DATE	CHK'D

ENGLISH DWG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL .XX ± .015
.XXX ± .005
ANGLES ± 1°
SURFACE ROUGHNESS IS IN MICROINCHES.
ROUGHNESS ✓
REMOVE ALL BURRS BREAK SHARP EDGES

PA6900-04-12 — 6/24/04
RELEASED FOR — DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE SC 29501

TITLE
SCHEM DIA PC-875 230V 3 PH CE

REPRO MADE FROM
SCALE NONE — SIMILAR TO D-0558001182/0558002488
FIRST MADE FOR PC-875 — SUP.

DRAWN	CHECKED	APPROVED	SUP. BY
BY BLP	BY RDH	BY RDH	
DATE 7/16/04	DATE 7/19/04	DATE 7/19/04	

D-0558004954

OCT 1995

D-0558002483

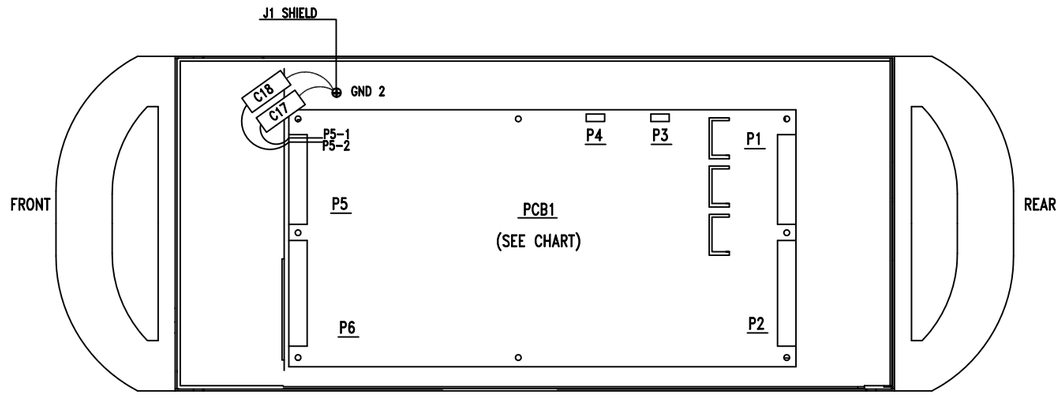
BILL OF MATERIALS

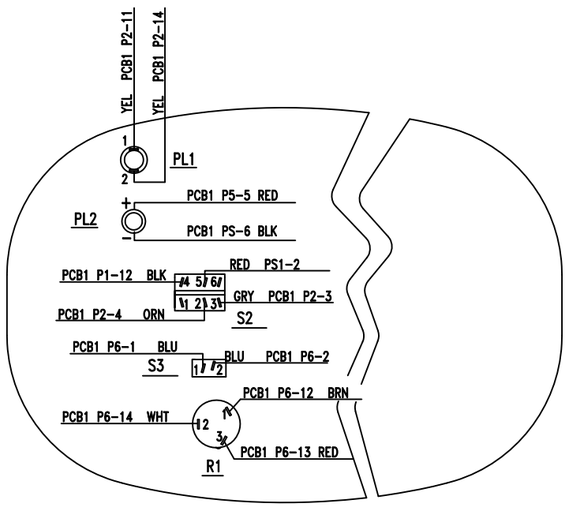
QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

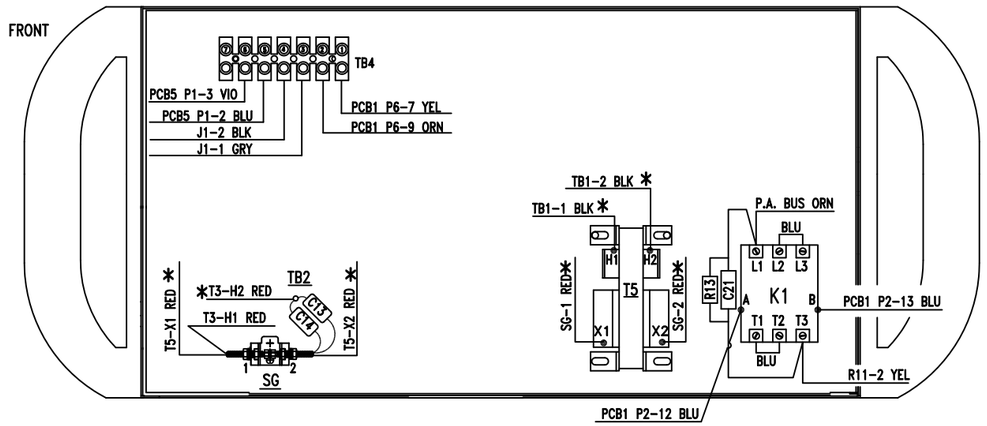
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

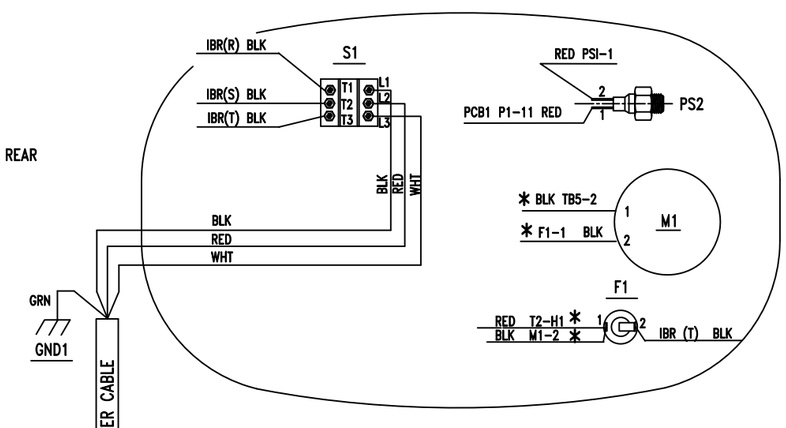
DETAIL "A" (PCB1)

P1			P2			P5			P6		
1	TS1-1	VIO	1	T2-X7	ORN	1	J1-1	CLR (TP)	1	S3-1	BLU
2	TS1-2	VIO	2	SOL1-1	WHT	2	J1-2	BLK (TP)	2	S3-2	BLU
3	T2-X9	BRN	3	SOL1-2	GRY	3	T2-X1	YEL	3	——	——
4	T2-X10	BRN	3	S2-3	GRY	4	T2-X2	YEL	4	——	——
5	T2-X5	BLU	4	T2-X8	ORN	5	PL2-(+)	RED	5	PCB1 P6-6	WHT
6	T2-X6	BLU	4	S2-2	ORN	6	PL2-(-)	BLK	6	R1-2	WHT
7	T4-1	ORN	5	——	——					PCB1 P6-5	WHT
8	T4-2	ORN	6	——	——	7	——	——	7	TB4-1	YEL
9	T2-X3	WHT	7	IBR-G	YEL	8	——	——	8	——	——
10	T2-X4	WHT	8	IBR(+)	BRN	9	R16-1	GRY	8	——	——
11	PS2-1	RED	9	——	——	10	——	——	9	TB4-2	ORN
12	S2-4	BLK	10	——	——	11	——	——	10	PCB4-3	BLK (TP)
			11	T2-X11	VIO	12	——	——	11	PCB4-4	RED (TP)
			11	PL1-1	YEL				12	R1-1	BRN
			12	TB1-1	BLU				13	R1-3	RED
			12	K1-A	BLU						
			13	TB1-2	BLU						
			13	K1-B	BLU						
			14	PL1-2	YEL						
			14	T2-X12	VIO						









REFERENCE DRAWINGS:

D- 0558002488 SCHEM DIAG PC 208/230V
A- 0558002480 WIRE KIT, MAIN PC
A- 0558002481 WIRE KIT, PC 208/230V 1/3 PH

NOTES:
1- * DENOTES SELF LEADS.
2- * (TP) DENOTES TWISTED PAIR.

SHEET 1 OF 2

M	LTR	CHANGE	BY	DATE	CHK'D
	A	CN-013326	BLP	10/8/01	RDH

ENGLISH DWG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL .XX ± .015
.XXX ± .005
ANGLES ± 1°
CHAMFERS & C'SINKS 42° SURFACE ROUGHNESS IS IN MICROINCHES. √
REMOVE ALL BURRS BREAK SHARP EDGES

PA6900-00-16 REV. 1 — 9/20/00
RELEASED FOR — DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE, SC 29501

TITLE WIRING DIAGRAM
PC 875 208/230V 1/3PH

REPRO MADE FROM
SCALE NONE — SIMILAR TO D-37568/D-0558001187
FIRST MADE FOR PC-875 — SUP.

DRAWN	CHECKED	APPROVED	SUP. BY
BY WAR	BY WJB	BY GWD	D-0558002483
DATE 1/18/01	DATE 1/18/01	DATE 1/18/01	

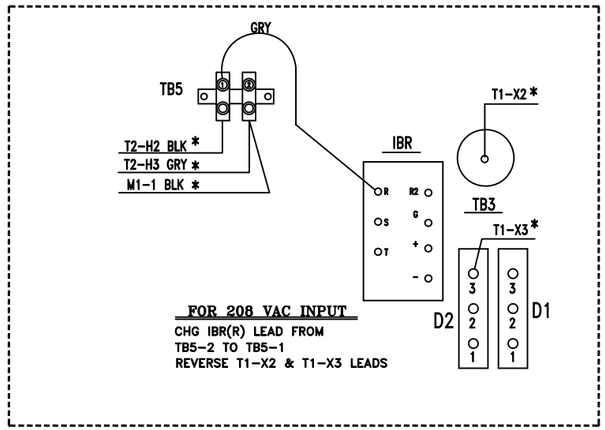
OCT 1995

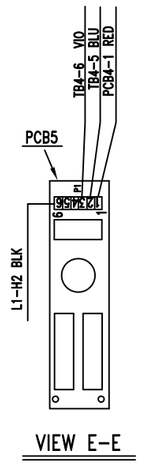
D-0558002483

BILL OF MATERIALS

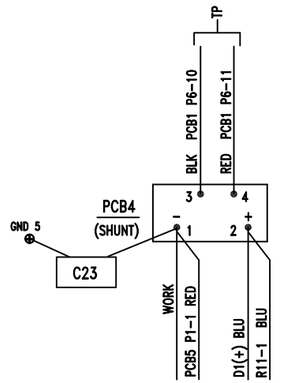
QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

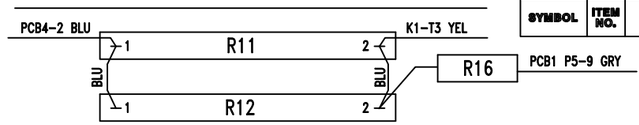




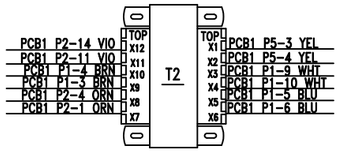
VIEW E-E



VIEW B-B

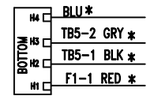


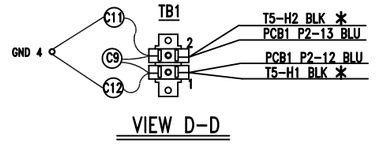
VIEW F-F



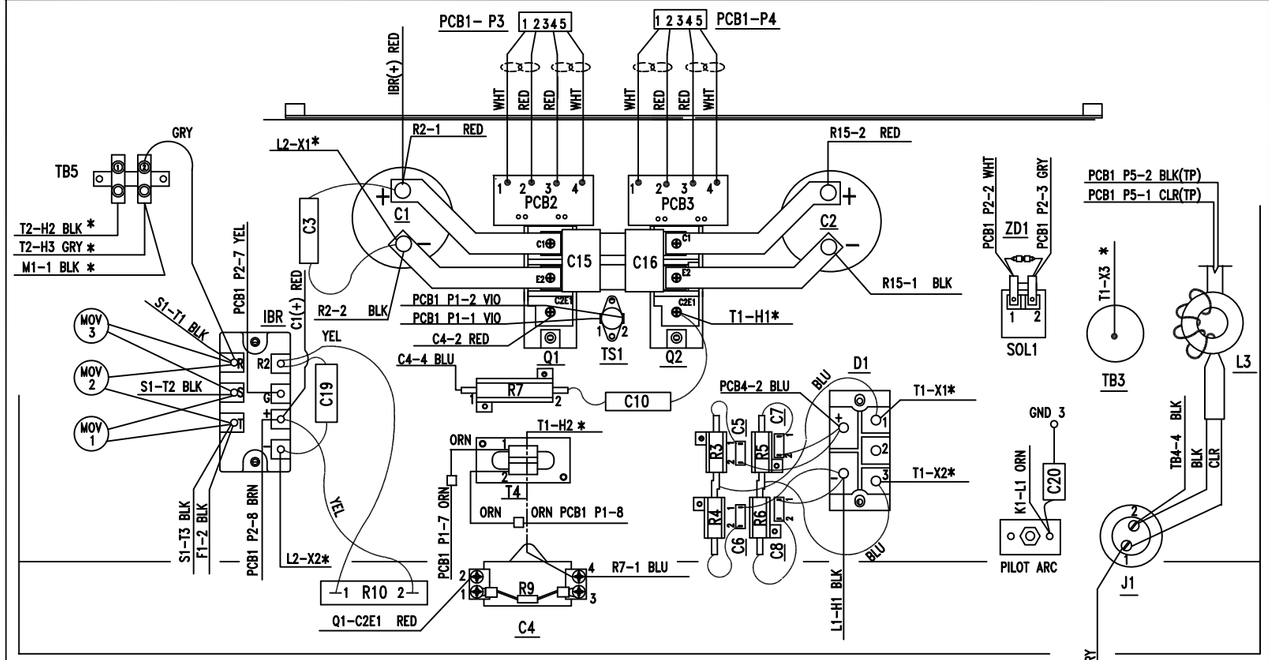
VIEW C-C

TOP AND BOTTOM

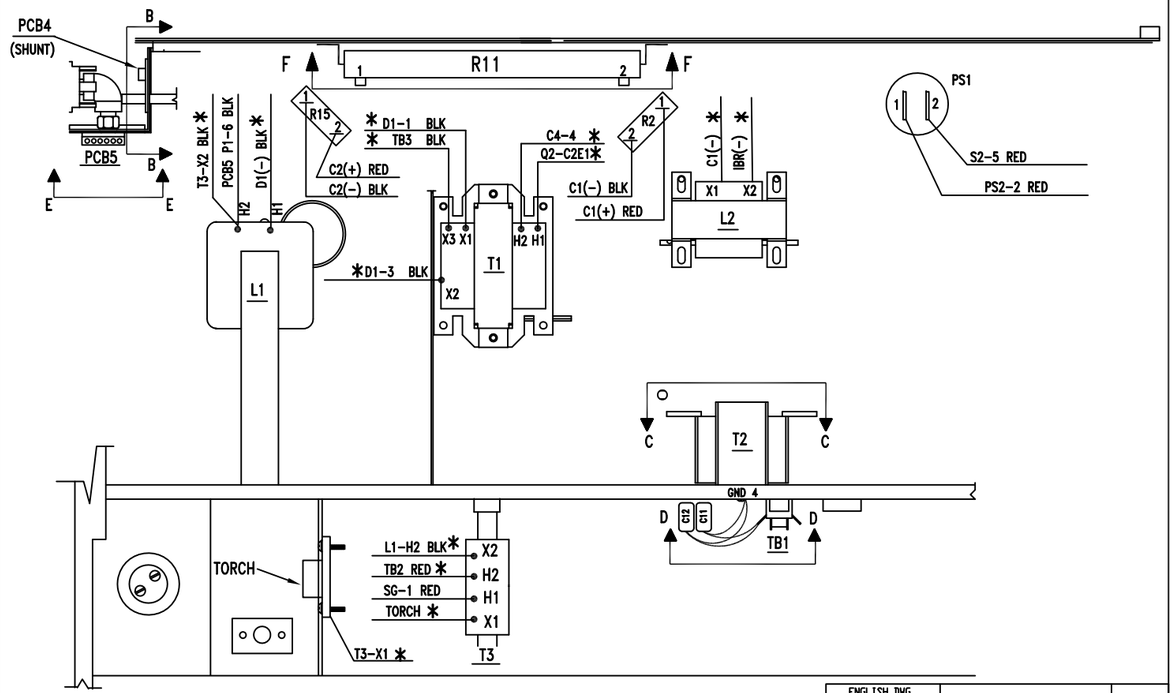




VIEW D-D



LEFT SIDE VIEW



RIGHT SIDE VIEW

M	LTR	CHANGE	BY	DATE	CHK'D
	A	SEE SHEET ONE			

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES. TOL .XX ± .015 .XXX ± .005 ANGLES ± 1° CHAMFERS & C'SINKS ±2° SURFACE ROUGHNESS IS IN MICROINCHES. REMOVE ALL BURRS BREAK SHARP EDGES	PA6900-00-16 REV. 1	9/20/00
	RELEASED FOR	DATE
	ESAB WELDING & CUTTING PRODUCTS FLORENCE, SC 29501	
	TITLE: PC 875 208/230V 1/3PH	
	REPRO MADE FROM	
SCALE NONE	SIMILAR TO D-37568/D-0558001187	
FIRST MADE FOR PC-875	SUP.	
DRAWN BY WAR DATE 1/18/01 / CHECKED BY WJB DATE 1/18/01 / APPROVED BY GWD DATE 1/18/01	SUP. BY	D-0558002483

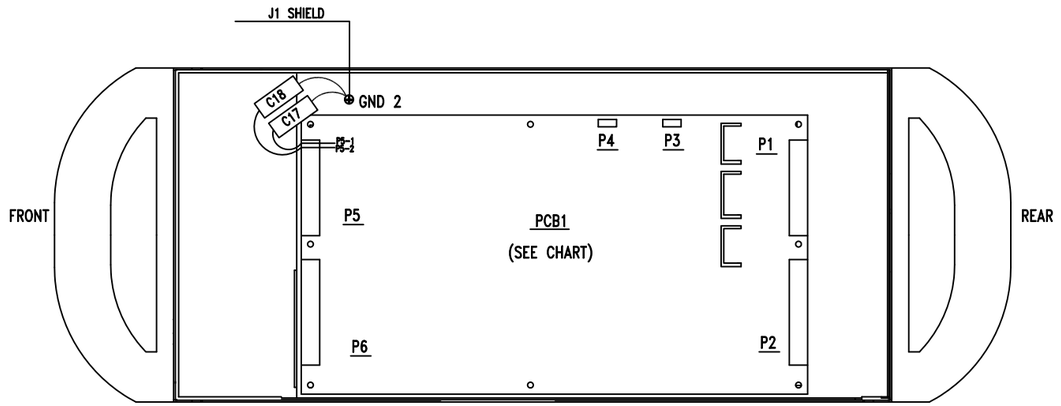
SHEET 2 OF 2

D-0558002487

BILL OF MATERIALS

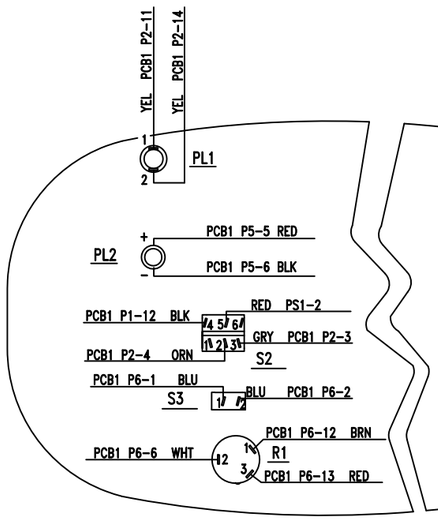
QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

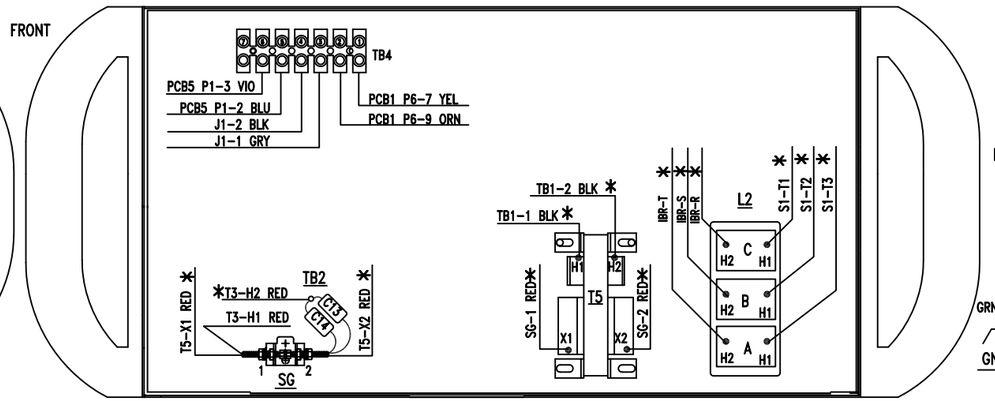
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

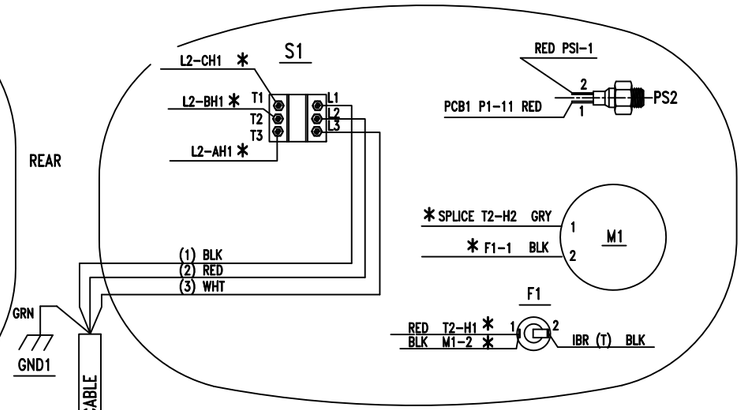


DETAIL "A" (PCB1)

P1			P2			P5			P6		
1	TS1-1	VIO	1	T2-X1	ORN*	1	J1-1	CLR (TP)	1	S3-1	BLU
2	TS1-2	VIO	2	SOL1-1	WHT	2	J1-2	BLK (TP)	2	S3-2	BLU
3	T2-X3	BRN *	3	SOL1-2	GRY	3	T2-X9	YEL*	3	——	——
4	T2-X4	BRN *	3	S2-3	GRY	4	T2-X10	YEL*	4	——	——
5	T2-X5	BLU *	4	T2-X2	ORN*	5	PL2-(+)	RED	5	PCB1 P6-6	WHT
6	T2-X6	BLU *	4	S2-2	ORN	6	PL2-(-)	BLK	6	R1-2	WHT
										PCB1 P6-5	WHT
7	T4-1	ORN	5	——	——				7	TB4-1	YEL
8	T4-2	ORN	6	——	——	7	——	——	8	——	——
9	T2-X7	WHT *	7	IBR-G	YEL	8	——	——	8	——	——
10	T2-X8	WHT *	8	IBR(+)	BRN	9	R16-1	GRY	9	TB4-2	ORN
11	PS2-1	RED	9	——	——	10	——	——	10	PCB4-3	BLK (TP)
12	S2-4	BLK	10	——	——	11	——	——			
			11	T2-X11	VIO *	12	——	——	11	PCB4-4	RED (TP)
			11	PL1-1	YEL				12	R1-1	BRN
			12	TB1-1	BLU				13	R1-3	RED
			12	K1-A	BLU						
			13	TB1-2	BLU						
			13	K1-B	BLU						
			14	PL1-2	YEL						
			14	T2-X12	VIO *						







REFERENCE DRAWINGS:

D- 0558002486 SCHEMATIC DIAGRAM PC

NOTES:
1- * DENOTES SELF LEADS.
2- * (TP) DENOTES TWISTED PAIR.

SHEET 1 OF 2

M	LTR	CHANGE	BY	DATE	CHK'D
	C	CN-073224	GMB	11/14/00	JBM
	B	CN-013326	BLP	10/3/00	RDH
	A	CN-013202	WAR	6/19/00	RDH

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL .XX ± .015
.XXX ± .005
ANGLES ± 1°
CHAMFERS & C'SINKS ±2°
SURFACE ROUGHNESS IS IN MICROINCHES. √
REMOVE ALL BURRS BREAK SHARP EDGES

PA6900-00-16 REV. 1 — 9/20/00
RELEASED FOR — DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE, SC 29501

TITLE
WIRING PC 875 400V,460V

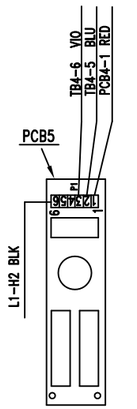
SCALE	NONE
REPRO MADE FROM	
SIMILAR TO	D-37570/0558001188
FIRST MADE FOR	PC-875
SUP.	
SUP. BY	

DRAWN	CHECKED	APPROVED
BY WAR	BY WJB	BY GWD
DATE 1/18/01	DATE 1/18/01	DATE 1/18/01

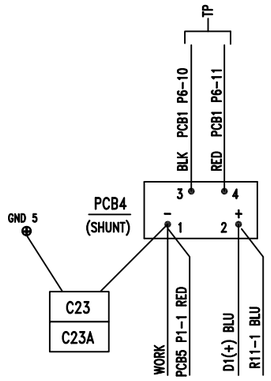
D-0588002487

OCT 1995

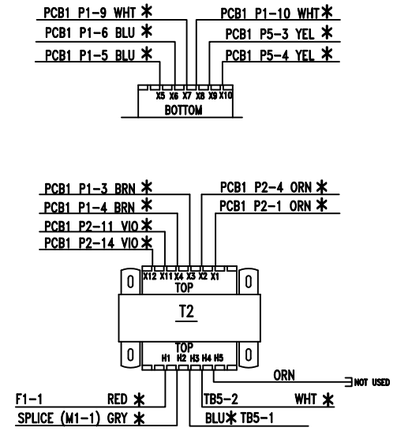
D-0558002487



VIEW E-E



VIEW B-B



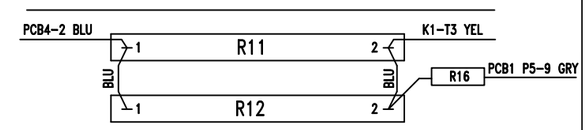
VIEW C-C

TOP AND BOTTOM

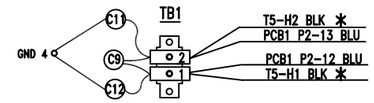
BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

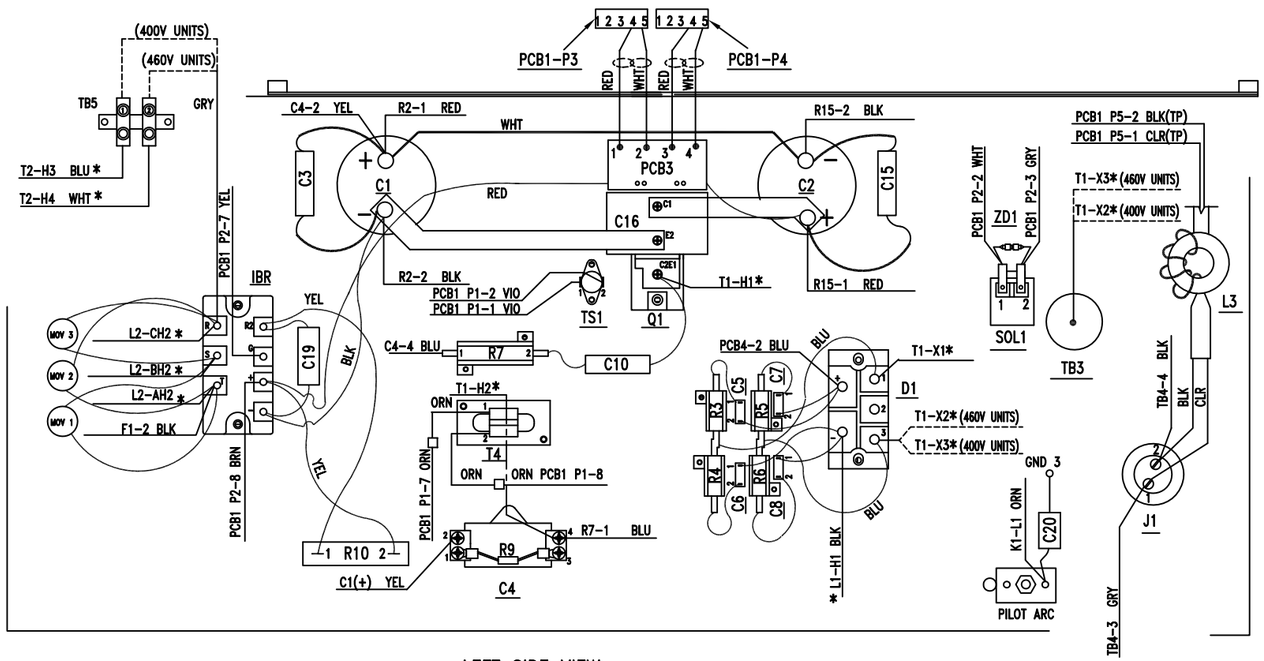
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION



VIEW F-F

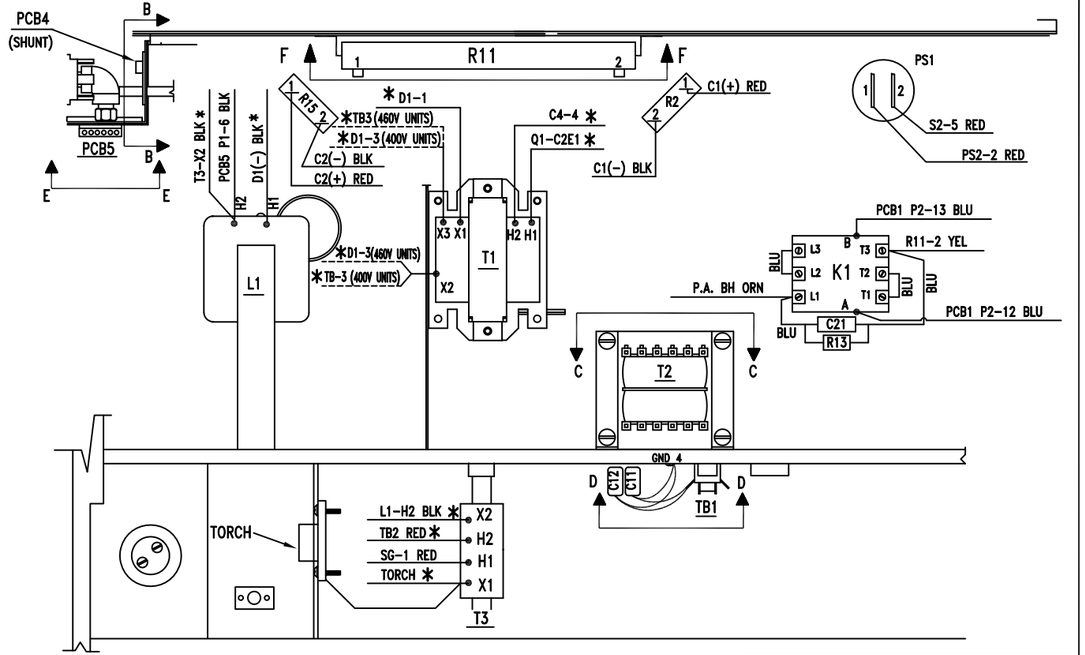


VIEW D-D



LEFT SIDE VIEW

M	LTR	CHANGE	BY	DATE	CHK'D
	C	SEE SHEET ONE			
	B	SEE SHEET ONE			



RIGHT SIDE VIEW

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES. TOL .XX ± .015 .XXX ± .005 ANGLES ± 1° CHAMFERS & C'SINKS ±2° SURFACE ROUGHNESS IS IN MICROINCHES. ✓ REMOVE ALL BURRS BREAK SHARP EDGES	PA6900-00-16 REV.1	9/20/00
	RELEASED FOR	DATE
	ESAB WELDING & CUTTING PRODUCTS FLORENCE, SC 29501	
	TITLE WIRING DIAGRAM	
	WIRING PC 875 400V,460V.....	
SCALE NONE	REPRO MADE FROM	
FIRST MADE FOR PC-875	SIMILAR TO D-37570/D-0558001188	SUP.
DRAWN BY WAR DATE 1/18/01	CHECKED BY WJB DATE 1/18/01	APPROVED BY GWD DATE 1/18/01	SUP. BY	D-0558002487

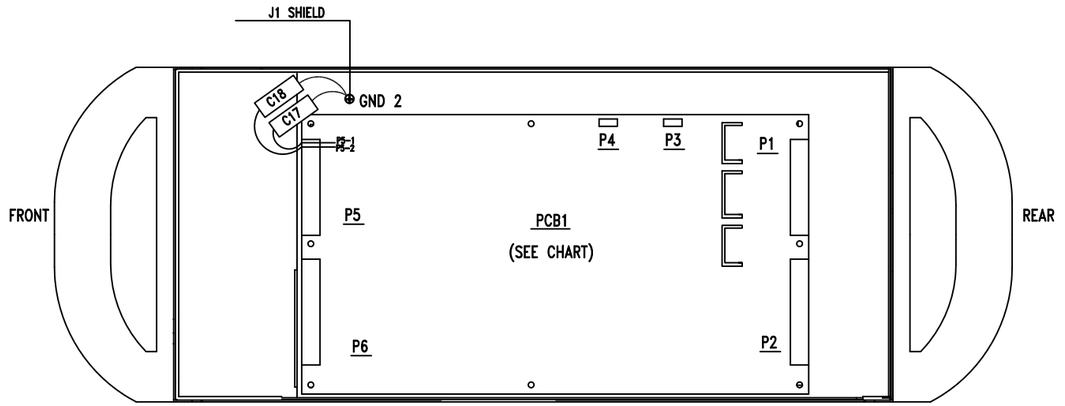
SHEET 2 OF 2

D-0558002956

BILL OF MATERIALS

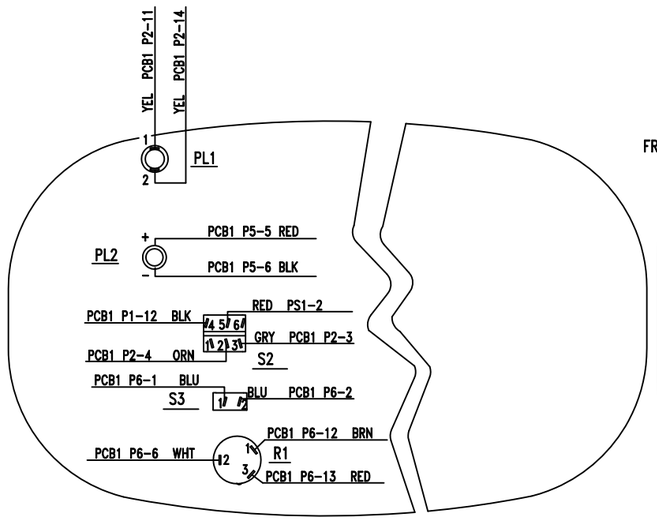
QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

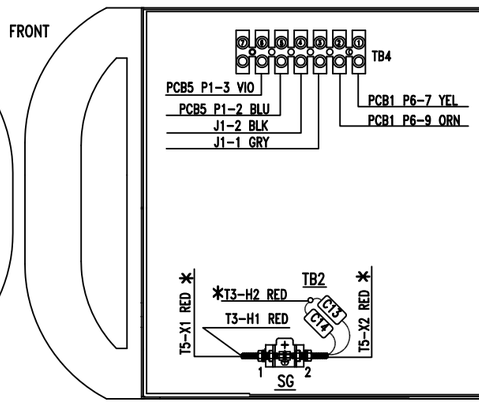
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

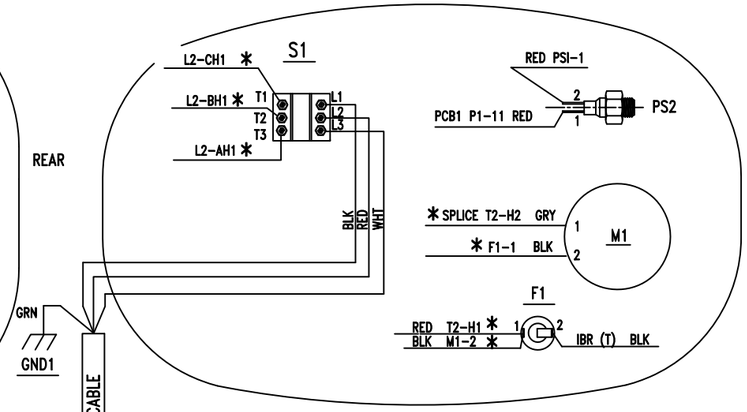


DETAIL "A" (PCB1)

P1			P2			P5			P6		
1	TS1-1	VIO	1	T2-X1	ORN*	1	J1-1	CLR (TP)	1	S3-1	BLU
2	TS1-2	VIO	2	SOL1-1	WHT	2	J1-2	BLK (TP)	2	S3-2	BLU
3	T2-X3	BRN *	3	SOL1-2	GRY	3	T2-X9	YEL*	3	——	——
4	T2-X4	BRN *	3	S2-3	GRY	4	T2-X10	YEL*	4	——	——
5	T2-X5	BLU *	4	T2-X2	ORN*	5	PL2-(+)	RED	5	PCB1 P6-6	WHT
6	T2-X6	BLU *	4	S2-2	ORN	6	PL2-(−)	BLK	6	R1-2	WHT
										PCB1 P6-5	WHT
7	T4-1	ORN	5	——	——				7	TB4-1	YEL
8	T4-2	ORN	6	——	——	7	——	——	8	——	——
9	T2-X7	WHT *	7	IBR-G	YEL	8	——	——	8	——	——
10	T2-X8	WHT *	8	IBR(+)	BRN	9	R16-1	GRY	9	TB4-2	ORN
11	PS2-1	RED	9	——	——	10	——	——	10	PCB4-3	BLK (TP)
12	S2-4	BLK	10	——	——	11	——	——			
			11	T2-X11	VIO *	12	——	——	11	PCB4-4	RED (TP)
			11	PL1-1	YEL				12	R1-1	BRN
			12	TB1-1	BLU				13	R1-3	RED
			12	K1-A	BLU						
			13	TB1-2	BLU						
			13	K1-B	BLU						
			14	PL1-2	YEL						
			14	T2-X12	VIO *						







REFERENCE DRAWINGS:

D- 0558002954 POWERCUT 875A 575V 3PH
A- 0558002480 WIRE KIT MAIN PC
A- 0558002957 KIT WIRE POWERCUT 1125 875/575V 3PH

NOTES:
1- * DENOTES SELF LEADS.
2- * (TP) DENOTES TWISTED PAIR.

SHEET 1 OF 2

M	LTR	CHANGE	BY	DATE	CHK'D
	A	CN-013326	BLP	10/8/01	RDH

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL .XX ± .015
.XXX ± .005
ANGLES ± 1°
CHAMFERS & C'SINKS ±2°
SURFACE ROUGHNESS IS IN MICROINCHES.
REMOVE ALL BURRS BREAK SHARP EDGES

PA6900-01-18 — RELEASED FOR — 6/14/01 DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE, SC 29501

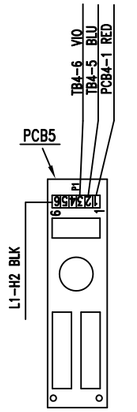
TITLE: WIRING PC 875 575V 3PH

REPRO MADE FROM:
SCALE NONE
SIMILAR TO:
FIRST MADE FOR PC-875

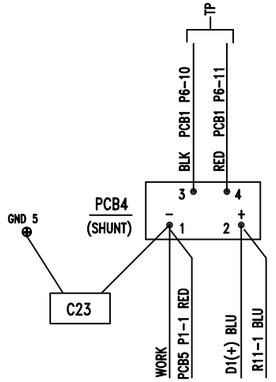
DRAWN	CHECKED	APPROVED	SUP.
BY TDG	BY RDH	BY GWD	SUP. BY
DATE 7/8/01	DATE 7/8/01	DATE 7/8/01	D-0588002956

OCT 1995

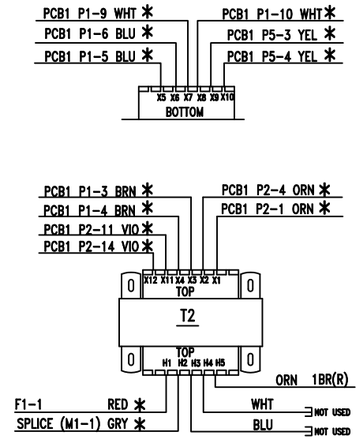
D-0558002956



VIEW E-E



VIEW B-B



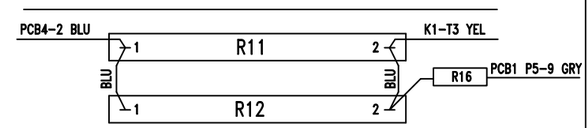
VIEW C-C

TOP AND BOTTOM

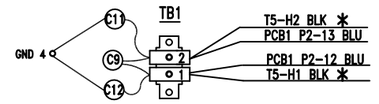
BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

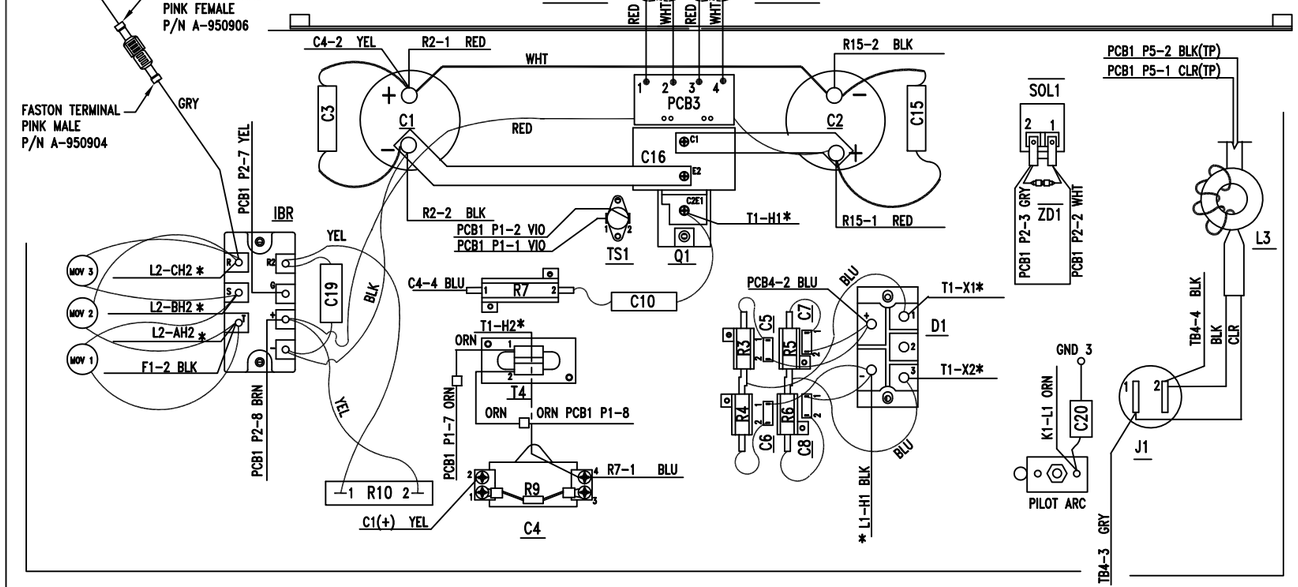
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION



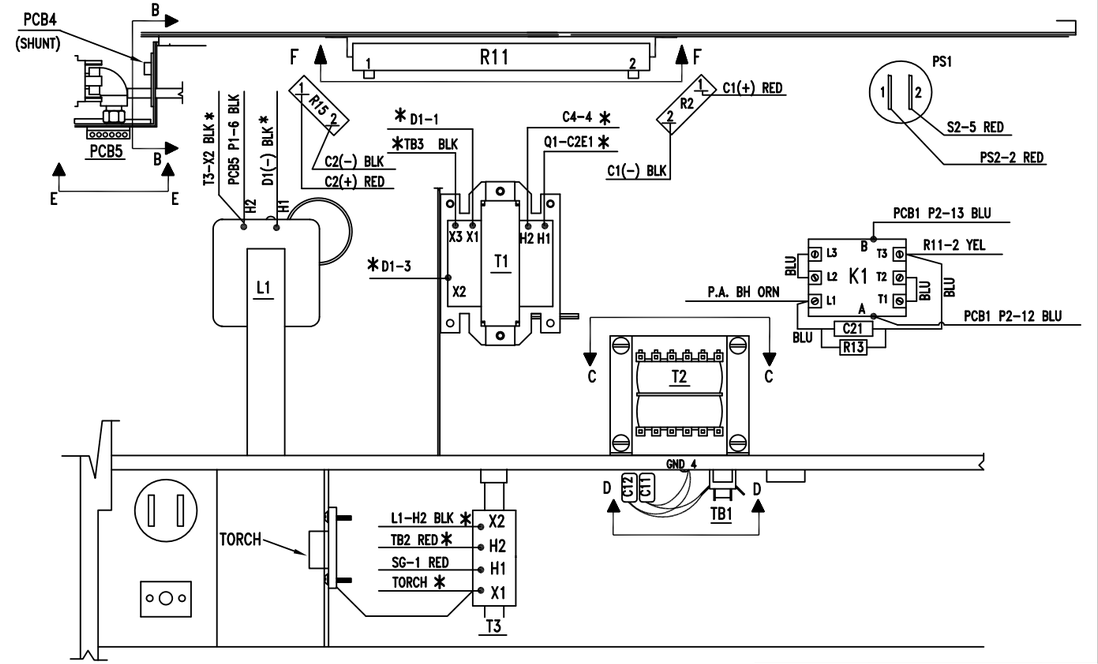
VIEW F-F



VIEW D-D



LEFT SIDE VIEW



RIGHT SIDE VIEW

	A	SEE SHEET 1			
M	LTR	CHANGE	BY	DATE	CHK'D

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES. TOL .XX ± .015 .XXX ± .005 ANGLES ± 1° CHAMFERS & C'SINKS 42° SURFACE ROUGHNESS IS IN MICROINCHES. ✓ REMOVE ALL BURRS BREAK SHARP EDGES		PA6900-01-18	6/14/01
		RELEASED FOR	DATE
		ESAB WELDING & CUTTING PRODUCTS FLORENCE, SC 29501	
		TITLE WIRING DIAGRAM	
		WIRING PC 875 575V 3PH	
SCALE NONE		REPRO MADE FROM	
FIRST MADE FOR PC-875		SIMILAR TO	
DRAWN BY TDG DATE 7/8/01	CHECKED BY RDH DATE 7/8/01	APPROVED BY GWD DATE 7/8/01	SUP. SUP. BY D-0558002956

SHEET 2 OF 2

OCT 1995

D-0558004955

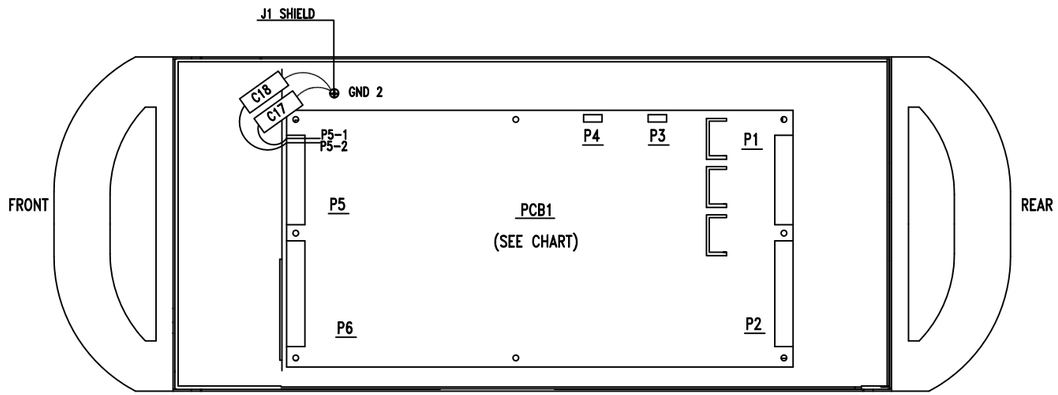
BILL OF MATERIALS

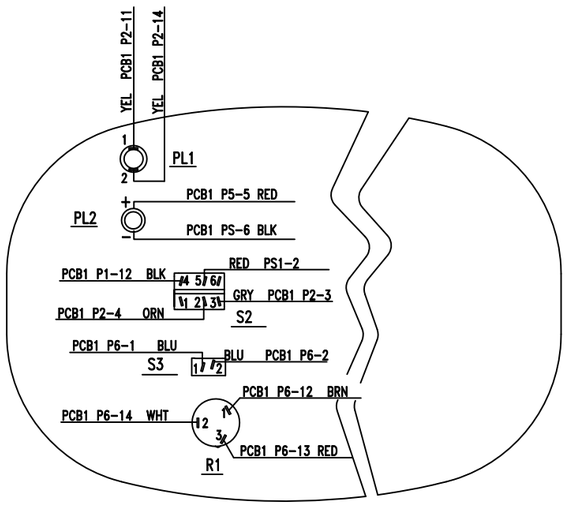
QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

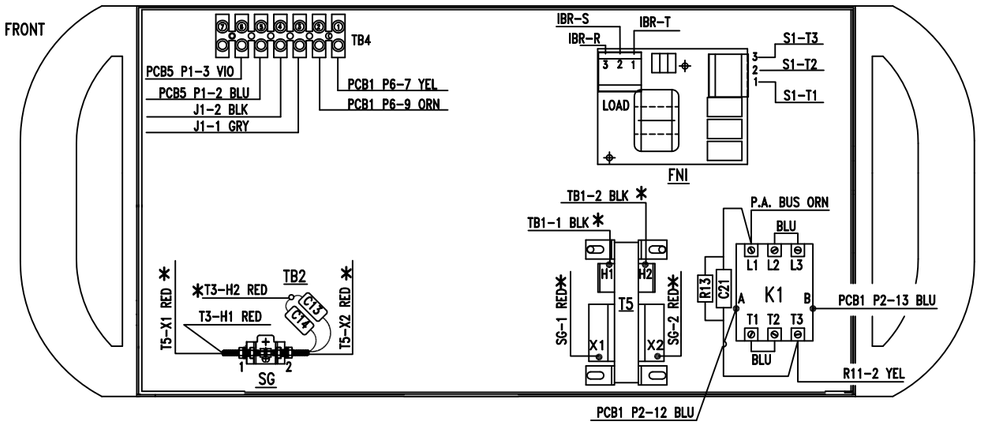
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

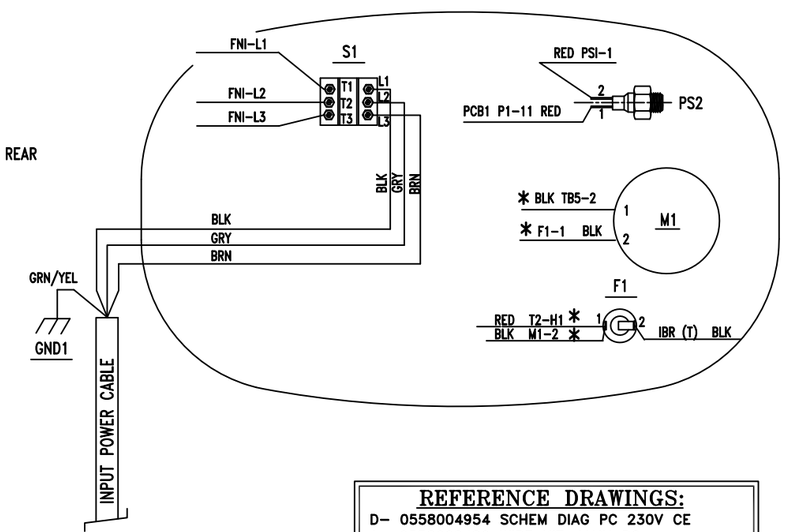
DETAIL "A" (PCB1)

P1			P2			P5			P6		
1	TS1-1	VIO	1	T2-X7	ORN	1	J1-1	CLR (TP)	1	S3-1	BLU
2	TS1-2	VIO	2	SOL1-1	WHT	2	J1-2	BLK (TP)	2	S3-2	BLU
3	T2-X9	BRN	3	SOL1-2	GRY	3	T2-X1	YEL	3	——	——
4	T2-X10	BRN	3	S2-3	GRY	4	T2-X2	YEL	4	——	——
5	T2-X5	BLU	4	T2-X8	ORN	5	PL2-(+)	RED	5	PCB1 P6-6	WHT
6	T2-X6	BLU	4	S2-2	ORN	6	PL2-(-)	BLK	6	R1-2	WHT
7	T4-1	ORN	5	——	——					PCB1 P6-5	WHT
8	T4-2	ORN	6	——	——	7	——	——	7	TB4-1	YEL
9	T2-X3	WHT	7	IBR-G	YEL	8	——	——	8	——	——
10	T2-X4	WHT	8	IBR(+)	BRN	9	R16-1	GRY	8	——	——
11	PS2-1	RED	9	——	——	10	——	——	9	TB4-2	ORN
12	S2-4	BLK	10	——	——	11	——	——	10	PCB4-3	BLK (TP)
			11	T2-X11	VIO	12	——	——	11	PCB4-4	RED (TP)
			11	PL1-1	YEL				12	R1-1	BRN
			12	TB1-1	BLU				13	R1-3	RED
			12	K1-A	BLU						
			13	TB1-2	BLU						
			13	K1-B	BLU						
			14	PL1-2	YEL						
			14	T2-X12	VIO						









REFERENCE DRAWINGS:

D- 0558004954 SCHEM DIAG PC 230V CE
A- 0558002480 WIRE KIT, MAIN PC
A- 0558004962 WIRE KIT PC 208/230V 3 PH CE

NOTES:
1- * DENOTES SELF LEADS.
2- * (TP) DENOTES TWISTED PAIR.

SHEET 1 OF 2

M	LTR	CHANGE	BY	DATE	CHK'D

ENGLISH DWG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL . XX ± .015
.XXX ± .005
ANGLES ± 1°
CHAMFERS & C' SINKS ±2°
SURFACE ROUGHNESS IS IN MICROINCHES.
REMOVE ALL BURRS BREAK SHARP EDGES

PA6900-04-12 — 6/24/04
RELEASED FOR — DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE, SC 29501

TITLE WIRING DIAGRAM
PC 875 230V 3PH CE

REPRO MADE FROM
SCALE NONE — SIMILAR TO D-37568/D-0558002483
FIRST MADE FOR PC-875 — SUP.

DRAWN	CHECKED	APPROVED	SUP. BY
BY BLP	BY RDH	BY RDH	
DATE 7/19/04	DATE 7/19/04	DATE 7/19/04	D-0558004955

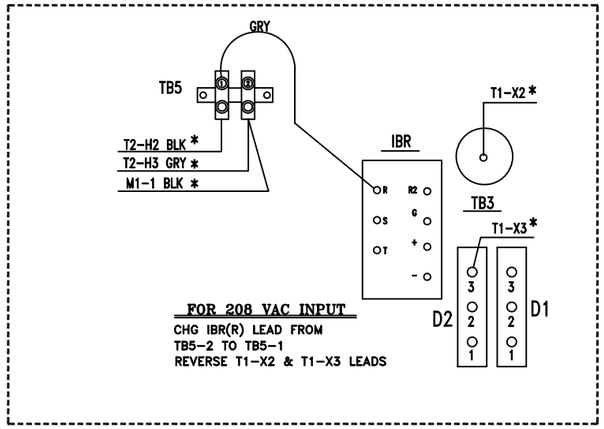
OCT 1995

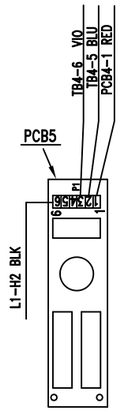
D-0558004955

BILL OF MATERIALS

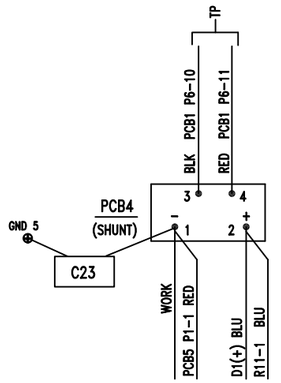
QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

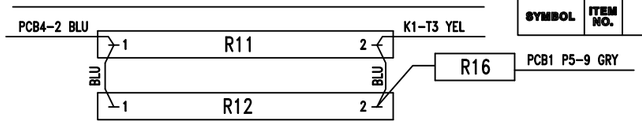




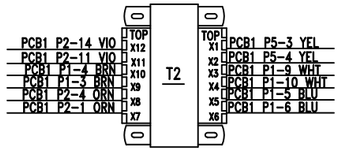
VIEW E-E



VIEW B-B

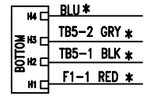


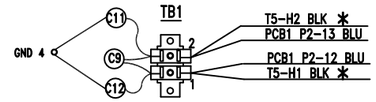
VIEW F-F



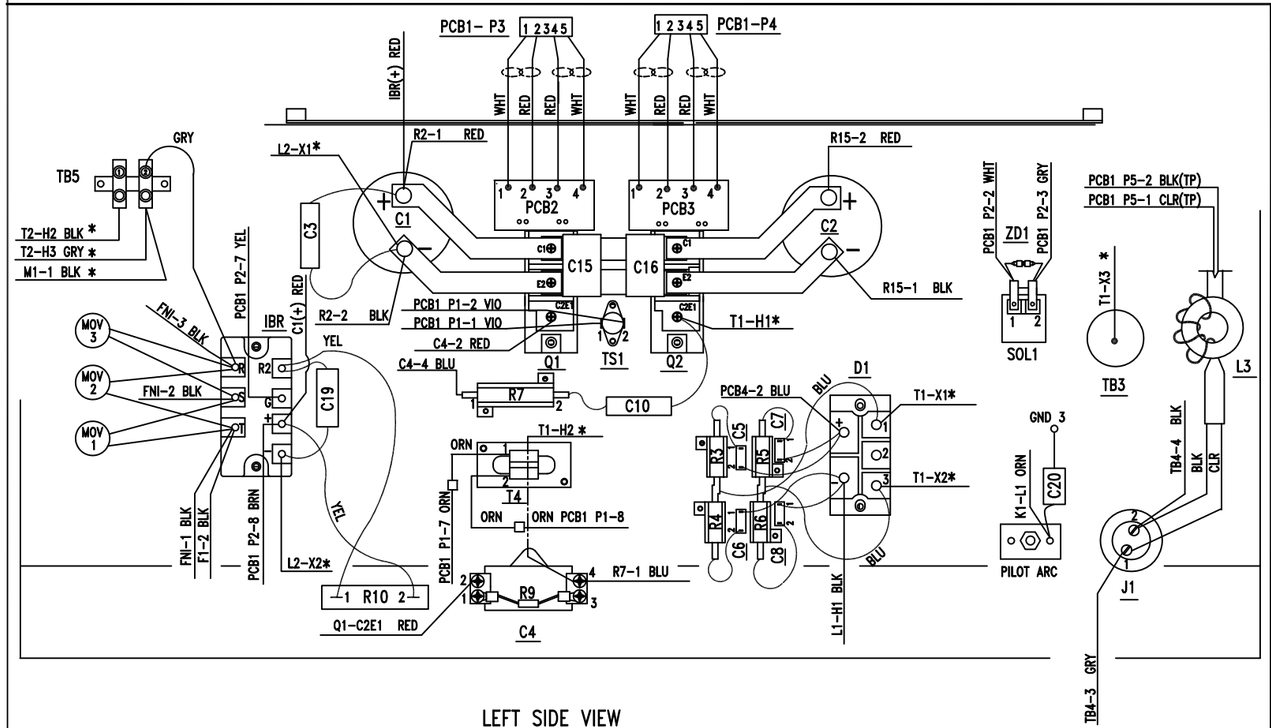
VIEW C-C

TOP AND BOTTOM

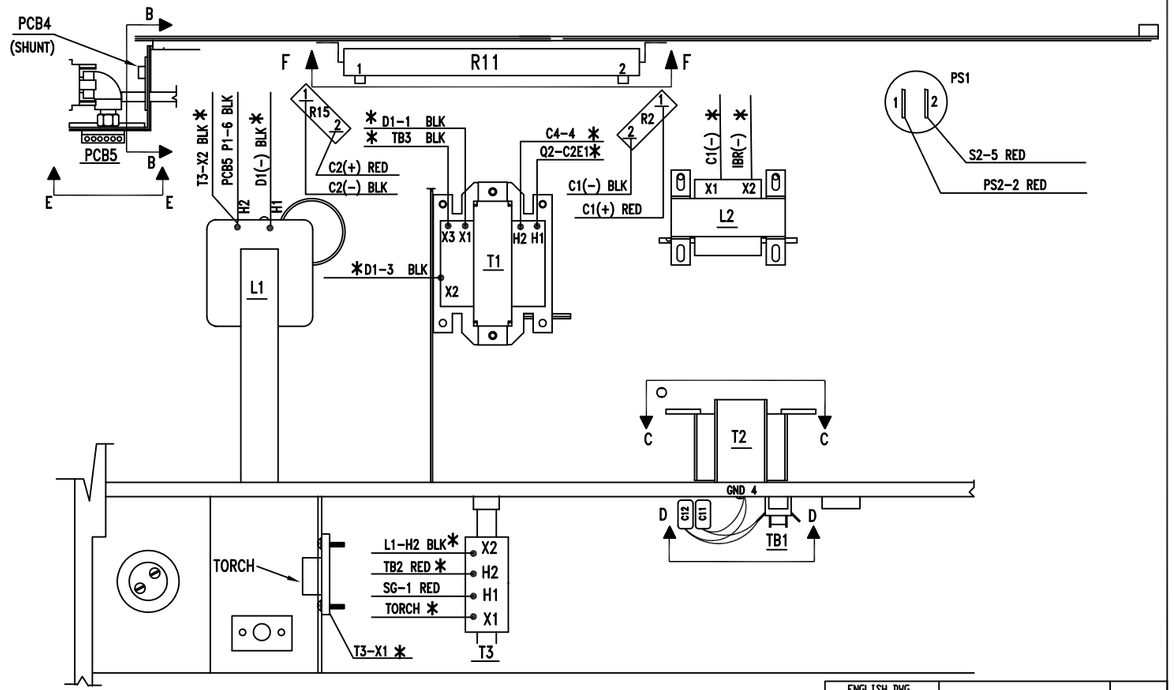




VIEW D-D



LEFT SIDE VIEW



RIGHT SIDE VIEW

M	LTR	CHANGE	BY	DATE	CHK'D
		SEE SHEET ONE			

ENGLISH DWG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES. TOL .XX ± .015 .XXX ± .005 ANGLES ± 1° CHAMFERS & C'SINKS ±2° SURFACE ROUGHNESS IS IN MICROINCHES. REMOVE ALL BURRS BREAK SHARP EDGES	PA6900-04-12 — 6/24/04 (RELEASED FOR / DATE)
	ESAB WELDING & CUTTING PRODUCTS FLORENCE, SC 29501
	TITLE: PC 875 230V 3PH CE
	REPRO MADE FROM
SCALE NONE	SIMILAR TO D-37568/D-0558002483
FIRST MADE FOR PC-875	SUP.
DRAWN BY BLP DATE 7/19/04	CHECKED BY RDH DATE 7/19/04 — APPROVED BY RDH DATE 7/19/04 — SUP. BY
	D-0558004955

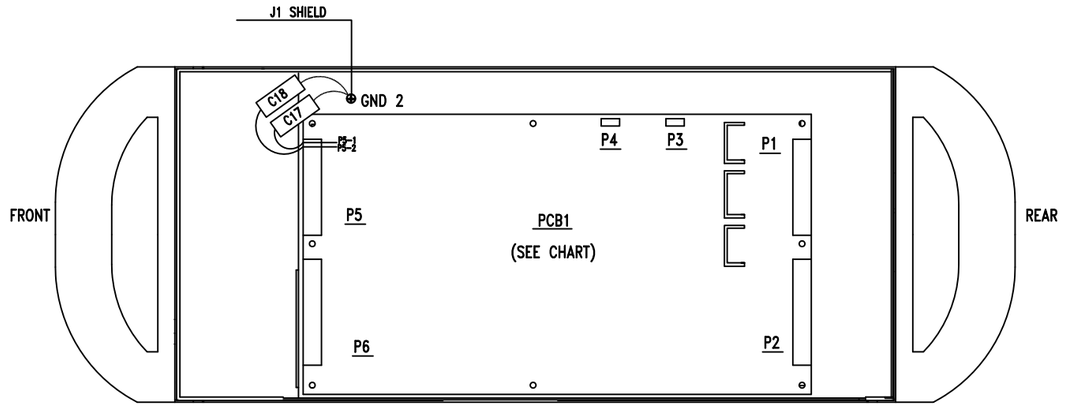
SHEET 2 OF 2

D-0558004956

BILL OF MATERIALS

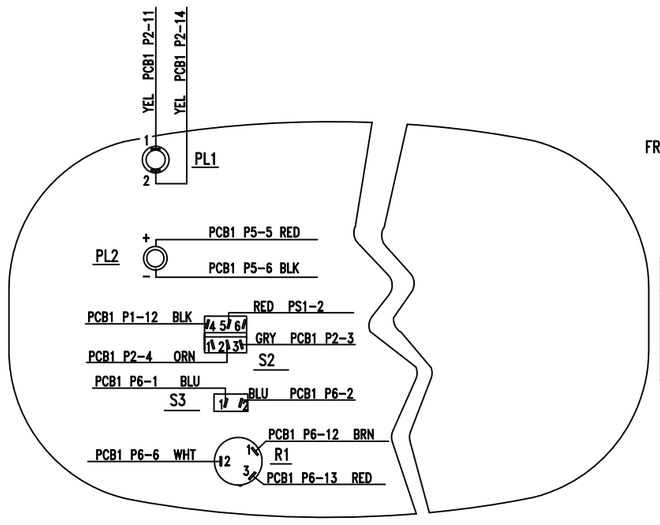
QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

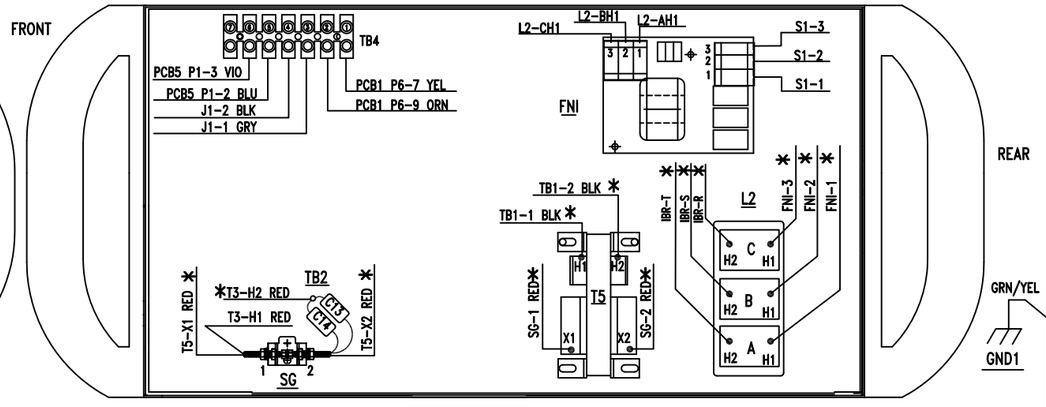
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

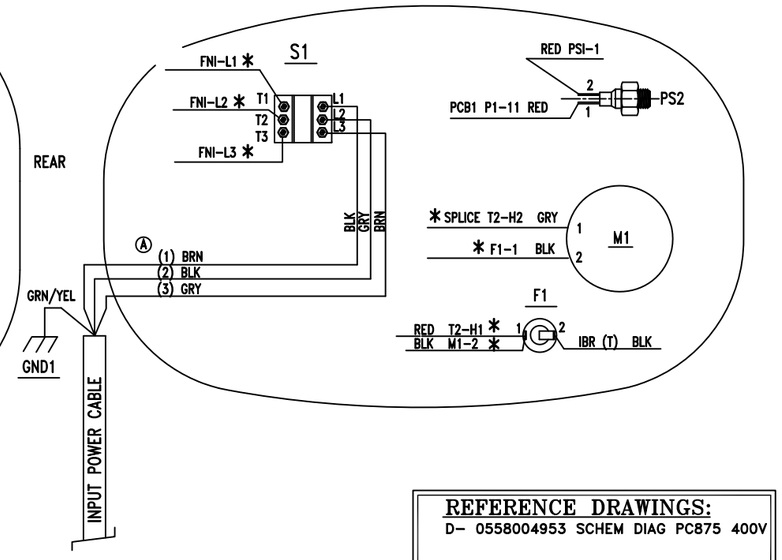


DETAIL "A" (PCB1)

P1			P2			P5			P6		
1	TS1-1	VIO	1	T2-X1	ORN*	1	J1-1	CLR (TP)	1	S3-1	BLU
2	TS1-2	VIO	2	SOL1-1	WHT	2	J1-2	BLK (TP)	2	S3-2	BLU
3	T2-X3	BRN *	3	SOL1-2	GRY	3	T2-X9	YEL*	3	——	——
4	T2-X4	BRN *	3	S2-3	GRY	4	T2-X10	YEL*	4	——	——
5	T2-X5	BLU *	4	T2-X2	ORN*	5	PL2-(+)	RED	5	PCB1 P6-6	WHT
6	T2-X6	BLU *	4	S2-2	ORN	6	PL2-(-)	BLK	6	R1-2 PCB1 P6-5	WHT WHT
7	T4-1	ORN	5	——	——				7	TB4-1	YEL
8	T4-2	ORN	6	——	——	7	——	——	8	——	——
9	T2-X7	WHT *	7	IBR-G	YEL	8	——	——	8	——	——
10	T2-X8	WHT *	8	IBR(+)	BRN	9	R16-1	GRY	9	TB4-2	ORN
11	PS2-1	RED	9	——	——	10	——	——	10	PCB4-3	BLK (TP)
12	S2-4	BLK	10	——	——	11	——	——			
			11	T2-X11	VIO *	12	——	——	11	PCB4-4	RED (TP)
			11	PL1-1	YEL				12	R1-1	BRN
			12	TB1-1	BLU				13	R1-3	RED
			12	K1-A	BLU						
			13	TB1-2	BLU						
			13	K1-B	BLU						
			14	PL1-2	YEL						
			14	T2-X12	VIO *						







REFERENCE DRAWINGS:

D- 0558004953 SCHEM DIAG PC875 400V

NOTES:
1- * DENOTES SELF LEADS.
2- * (TP) DENOTES TWISTED PAIR.

SHEET 1 OF 2

M	LTR				
	A	CN-073224	GMB	11/4/04	JBM
		CHANGE	BY	DATE	CHK'D

ENGLISH DVG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL . XX ± .015
.XXX ± .005
ANGLES ± 1°
CHAMFERS & C'SINKS 82°
SURFACE ROUGHNESS IS IN MICROINCHES. √
REMOVE ALL BURRS
BREAK SHARP EDGES

PA-6900-04-12 — RELEASED FOR — 6/24/04 DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE, SC 29501

TITLE
WIRING PC 875 400V 3PH CE ....

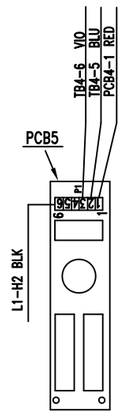
REPRO MADE FROM
SCALE NONE
SIMILAR TO D-37570/0558002487

FIRST MADE FOR PC-875 — SUP.

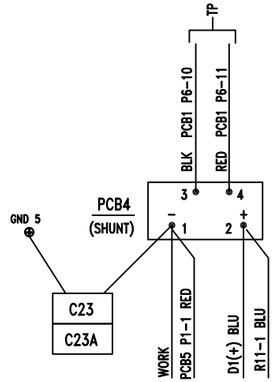
DRAWN	CHECKED	APPROVED	SUP. BY
BY BLP	BY RDH	BY RDH	D-0588004956
DATE 7/19/04	DATE 7/19/04	DATE 7/19/04	

OCT 1995

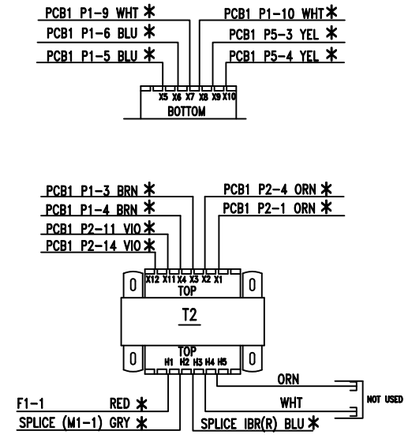
D-0558004956



VIEW E-E



VIEW B-B



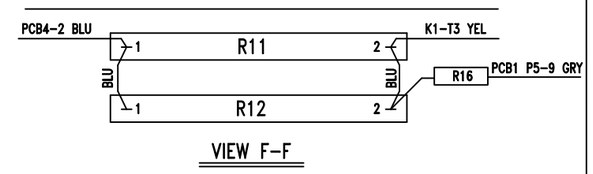
VIEW C-C

TOP AND BOTTOM

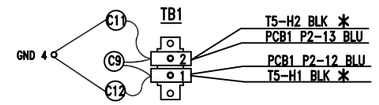
BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

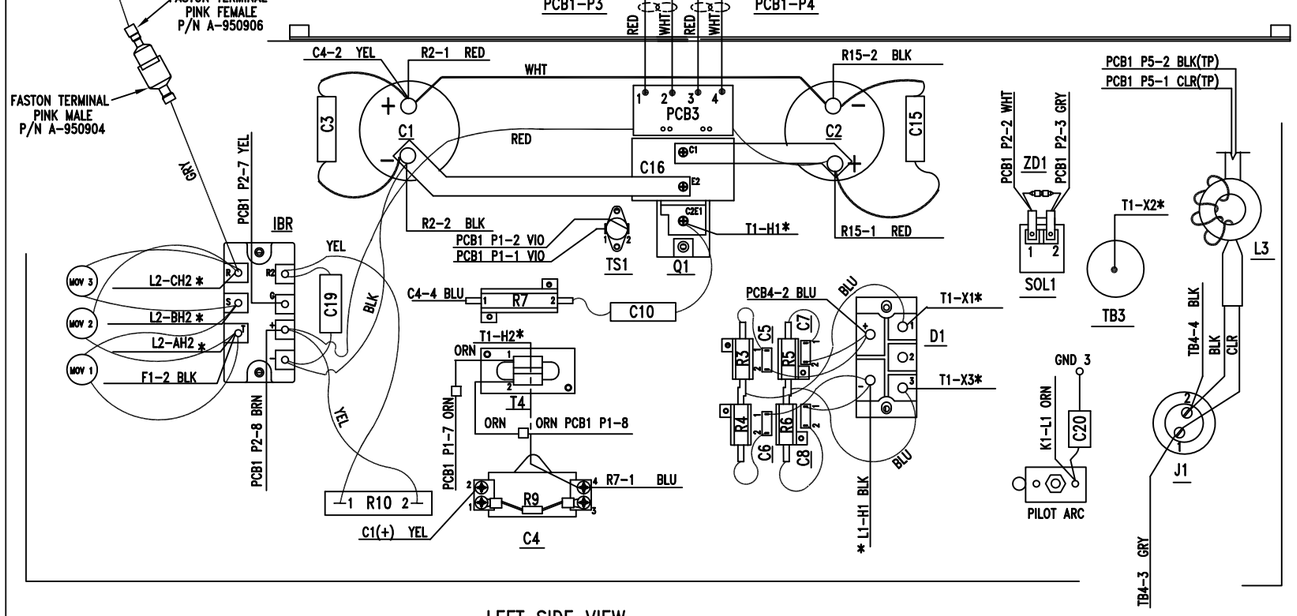
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION



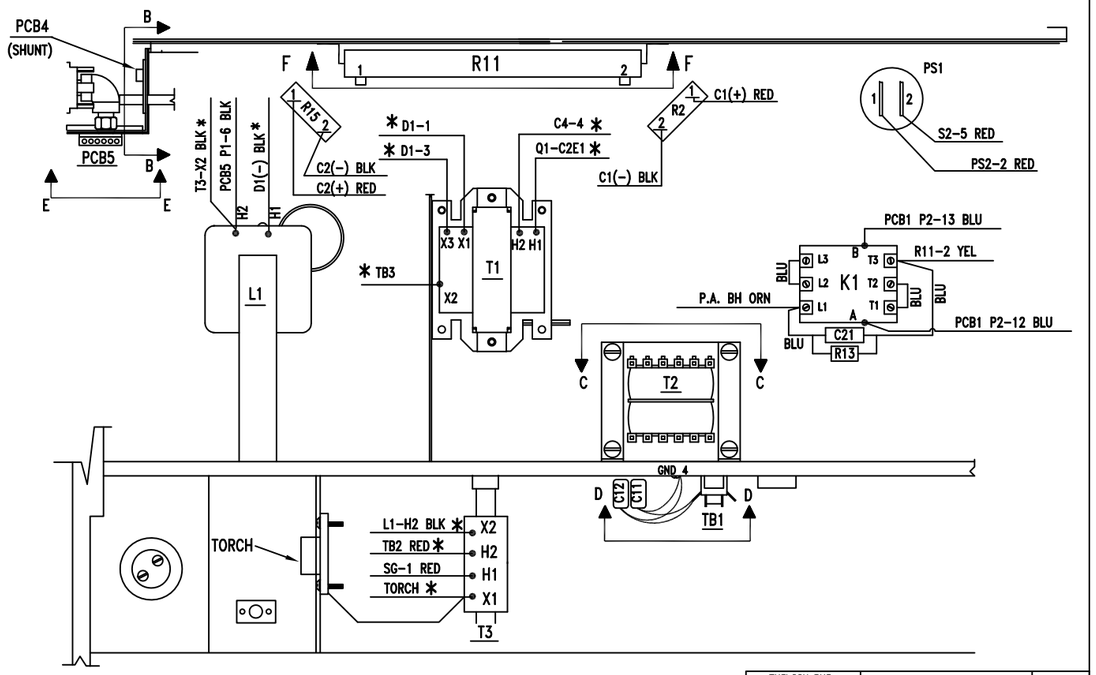
VIEW F-F



VIEW D-D



LEFT SIDE VIEW



RIGHT SIDE VIEW

M	LTR	CHANGE	BY	DATE	CHK'D
	A	SEE SHEET 1			

ENGLISH DWG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL .XX ± .015
.XXX ± .005
ANGLES ± 1°
CHAMFERS & C'SINKS 82° SURFACE ROUGHNESS IS IN MICROINCHES. √
REMOVE ALL BURRS BREAK SHARP EDGES

PA-6900-04-12 — 6/24/04
RELEASED FOR — DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE, SC 29501

TITLE: WIRING DIAGRAM
WIRING PC 875 400V 3PH CE

REPRO MADE FROM
SCALE NONE
SIMILAR TO D-37570/D-0558002487
FIRST MADE FOR PC-875

DRAWN	CHECKED	APPROVED	SUP.
BY BLP	BY RDH	BY RDH	SUP. BY
DATE 7/19/04	DATE 7/19/04	DATE 7/19/04	D-0558004956

SHEET 2 OF 2

OCT 1995

ESAB Welding & Cutting Products, Florence, SC Welding Equipment
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Telephone: (800) ESAB-123
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